FEEDSTUFFS

★ A WEEKLY NEWSPAPER ★

FOR THE FEED MANUFACTURER, JOBBER, BROKER and DEALER

Volume 29—Number 11 | MARCH 16, 1957 | 1 Year $4, 2 Years $7

Allied Building New Plant at Guntersville, Ala.

CHICAGO—Allied Mills, Inc., Chicago, has under construction a new feed plant on the Tennessee River at Guntersville, Ala.

This was announced recently by L. T. Murphy, vice president in charge of production.

The Guntersville location was selected primarily because of low cost water transportation on grain and grain products and the increased production of grain in northern Alabama, Mr. Murphy said. Also, the location is adjacent to a large broiler feeding area, and the production of poultry and livestock in this area is increasing.

Dealers in the state of Alabama

(Continued on page 112)

WASHINGTON WIRE

By JOHN CIPPERLY

WASHINGTON — Freshman Congressman Charles Brown (D., Mo.), one of the members of the sub-committee of the House Small Business Committee named last week to investigate feed industry financing practices in the broiler industry, has indicated he will be a leader in the sub-committee. During debate on the House floor on the corn-soil bank bill this week he read some very solid comments on the entire farm program into the record. His speech, observers say, made uncommonly good sense.

• • •

Anticipated procurement authorizations for purchase of edible oils for Spain and Italy and lard for

(Continued on page 112)

FEEDSTUFFS *Features This Week*

RETAIL PLANT MODERNIZATION: An Iowa retailer has modernized facilities for better feed handling. Read about it on **page 30**.

PREMIXING: An extensive presentation on premixing has been prepared by Robert C. Wornick. It will be found on **page 54**.

NEW DEVELOPMENTS: New feed developments have brought mixing and merchandising problems for the small to medium-size feed manufacturer. Dr. T. W. Perry discusses them on **page 80**.

DAIRY FEEDING: The economics of liberal vs. restricted grain feeding of dairy cows comes in for attention from Dr. L. S. Mix on **page 94**.

LIVESTOCK FEED RESEARCH: Dr. O. D. Butler, on **page 42**, reviews livestock feeding research reported by southern workers.

CONFERENCES: New nutrition research and feed developments have been discussed at recent conferences. You'll find reports on the Distillers Feed Conference on **page 4**; Colorado conference, **page 50**; Oregon conference, **page 98**.

LIVESTOCK INVENTORY: Some basic information on the feed industry's market is found in the annual livestock and poultry inventory on **page 90**. Also see story on **page 6**.

Joe Brooks	20	Putting Research to Work	96
Up or Down	70	Classified Ads	106
Worth Looking Into	86	Feed Markets in Detail	110
Convention Calendar	88	Index of Advertisers	115

Major Farm Legislation This Year Appears Dead

WASHINGTON—Major farm legislation this year may now be regarded as a "dead duck."

This week the House of Representatives, in a violent split between the cotton members of the formerly cohesive farm bloc and the corn-hog adherents, killed all chances of any new legislation dealing with the corn acreage allotment program for this year, as well as amendments to the Soil Bank.

In a topsy-turvy performance, the House voted down three bills before it.

First it killed the Andresen amendment, which was a compromise between the presently available program and the liberal Democratic majority committee bill, which was estimated as increasing feed grain production this crop year and at the same time making soil bank payments generously available to the cotton farmers whose acreage allotments have been badly clipped.

After knocking out the Andresen compromise, the House first approved another compromise measure, introduced by Rep. Robert Harrison (R., Neb.) and backed by the American Farm Bureau Federation. The Harrison bill was a composite of the previous referendum vote on corn acreage allotments under the farm law of 1938 and the Soil Bank. It too was killed.

Then the House voted down the committee bill, which so generously would reward the cotton farm community.

(Continued on page 112)

New Drouth Aid Approach Being Planned

Current Programs Continuing; Some Texas Areas Dropped

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON—There is a plan in the works at the Commodity Stabilization Service to establish an independent adminis'rative unit to handle on a complete basis future drouth, flood and other emergency problems which may arise in agriculture.

The fact that this decision has been taken and plans are in preparation for approval at the top level of USDA, indicates that CSS officials are reconciled to the fact that drouth, floods and other such emergencies are virtually a component part of farm problems and must be administered on a more practical basis than the hit-or-miss activities which up to this time have prevailed.

Although this plan is seen as an acceptance of the permanence of government relief in the field of drouth or flood problems, it must also be construed as an advance in administrative technique at USDA.

This information on future plans became available this week after there had been repeated rumors that the current drouth emergency feed program would end March 15.

Entire Program Not Ending

It is true that as of that date, some 60 counties in east Texas are being cut off from further drouth emergency feed purchase orders for farmers. This decision was clear in the original inclusion of those east Texas counties in the drouth feed program,

(Continued on page 109)

"New Look" Program Set For AFMA's Annual Meeting

CHICAGO—"The new look," slogan for the 49th annual convention of the American Feed Manufacturers Assn., will be put into action May 1-3, predicts W. E. Glennon, AFMA president, who announced details of his association's annual meeting program.

"We expect between 2,000 and 3,000 delegates will find this meeting one of the most impressive and helpful sessions ever to be held," said Mr. Glennon. He gave three factors as responsible for considerably increased interest by feed men in the meeting. He noted this to be the first national convention combined with the National Feed Industry Show. The AFMA convention speakers are bringing fresh, new material appraising the progressive feed and agriculture industries. Finally, he said, the speakers' methods of presenting the materials will be unique and interesting. "In many cases," Mr. Glennon stated, "delegates will have solved many of their own problems with audience participation devices, at the end of the two-day speaking program."

Keynote address at the meeting will be given by H. Roe Bartle, mayor of Kansas City. A dynamic speaker of national renown, Mr. Bartle has titled his address, "Stand Up and Be Counted."

Mr. Bartle is founder and administrator of the American Humanics Foundation, former president of Missouri Valley College, member of the board of a bank, several business corporations and the Basic Research Corp., president for 16 years of Alpha Phi Omega, executive officer of 30 civic and religious groups and recipient of 14 honorary doctorates and 42 other accolades. He is much in demand as a speaker in behalf of the

(Continued on page 109)

STUDENTS SOUGHT FOR FEED COURSE

MANHATTAN, KANSAS — Plans for promoting enrollment in the feed technology courses at Kansas State College were discussed by Kansas Formula Feed Manufacturers at a meeting here March 11. The group met with Dr. John Shellenberger, head of the department of flour and feed milling industry at the college. The feed men will arrange showings of the 14-minute film "A New Career" and distribute literature describing the feed technology program to senior classes and assemblies at high schools. There are 64 students enrolled in feed technology at Kansas State College this spring semester, compared with 49 in these courses in the same semester a year ago.

Industry Leaders To Address Quad State Meeting

SIOUX CITY, IOWA—Several industry leaders will appear as speakers at the Quad State Grain, Feed & Seed Assn. convention March 17-18. The Quad State convention is held for grain, feed and seed dealers in northwest Iowa, northeast Nebraska, southwest Minnesota and southeast South Dakota.

Speakers will be William F. Brooks, president of the National Grain Council, Washington; Alvin E. Oliver, executive vice president, Grain & Feed Dealers National Assn., Washington; E. C. Cherbonnier, feed consultant, GFDNA, St. Louis; Clarence D. Palmby, director, Grain Division, Commodity Stabilization Service, Washington. The four speakers also make up a panel for a discussion.

Also scheduled is a dance March 17 and a banquet March 18. D. J. Schrickel, president of the Sioux City Grain, Feed & Seed Assn., will preside at the convention.

★ FEEDSTUFFS ★

A Weekly Newspaper Published by
THE MILLER PUBLISHING CO.
2501 WAYZATA BLVD., MINNEAPOLIS, MINN.
(Address Mail to P. O. Box 67, Minneapolis 1, Minn.)
(Telephone: Federal 2-6675. All Offices Serviced by Bell System Teletype)

EDITORIAL STAFF—Harvey E. Yantis, Editor; George L. Gates, Managing Editor; Roger Bergland, Assistant Managing Editor; John Cipperly, Washington Correspondent; Emmet J. Hoffman, Merchandising Editor; Walter C. Smith, Research Director.

WASHINGTON CORRESPONDENT—John Cipperly, 604 Hibbs Building, Washington, D. C., Telephone, Republic 7-8534.

ADVERTISING STAFF—Wilfred E. Lingren, Advertising Director; Carl R. Vetter, Advertising Production Manager; Bruce A. Kirkpatrick, Assistant Advertising Production Manager.

BUSINESS STAFF—Carroll K. Michener, Chairman of the Board of Directors; Harvey E. Yantis, President; Milton B. Kihlstrum, Executive Vice President and Treasurer; Martin E. Newell, Vice President; Don E. Rogers, Vice President; Wilfred E. Lingren, Secretary; Thomas A. Griffin, Business Manager; Edwin J. Hartwick, Circulation Manager; James G. Pattridge, Assistant Treasurer; Richard L. Ostlund, Office Manager; W. O. Buchkosky, Production Superintendent.

BRANCH OFFICES—SOUTHWEST, Martin E. Newell, Manager; Thomas E. Leteh, Assistant Manager, 612 Board of Trade Bldg., 1005 Wyandotte St., Kansas City 5, Mo. (Tel. Victor 2-1256); EASTERN STATES, Paul L. Dittemore, Eastern Advertising Sales Manager; George W. Potts, New York Office Manager; James W. Miller, Advertising Sales Representative, Suite 3214, 551 Fifth Ave., New York 17, N. Y. (Tel. Murray Hill 2-2185); CENTRAL STATES, Don E. Rogers, Manager; Henry S. French, Assistant Manager, 2278 Board of Trade Bldg., 141 W. Jackson Blvd., Chicago 4, Ill. (Tel. Harrison 7-6782); NORTHWEST, Paul A. Anderson, Advertising Sales Representative, P. O. Box 67, Minneapolis 1, Minn. (Tel. Federal 2-6675).

Correspondence regarding subscriptions, changes of address, etc., should be sent to Circulation Manager, Feedstuffs, Box 67, Minneapolis 1, Minn. Single copies 20¢. Subscription rates: One year $4, two years $7, in the U.S., U.S. possessions, Canada and Pan-America. Add $3 a year for postage to other countries. Readers are urged to give prompt notice of change of address and to anticipate future changes by at least two weeks' advance notice. Ask postman for form 22-S. Feedstuffs accepts subscriptions only through its own offices; no subscription solicitors are employed or recognized. Associated publications: The Northwestern Miller, The American Baker, Milling Production, Croplife.

Entered as second-class matter Feb. 25, 1947, at the post office at Minneapolis, Minn., under the Act of Mar. 3, 1879

• The controlled circulation of this issue is concentrated in the southwestern states

Some Significant Research

IT'S axiomatic that the feed industry can grow and prosper only to the extent that it does an increasingly efficient job of helping the producer convert feed to profit. Yet, while busily creating better and better products and then proclaiming their virtues, we sometimes may not give enough attention to just how efficiently we get this super-charged product to the feeder—that is, how efficiently and economically we handle and move it—to say nothing of how well we educate and guide him in using it to best advantage.

At present, according to the mill cost study sponsored last year by the Midwest Feed Manufacturers Assn., a model plant puts more than a third of its total man-hours into warehousing and loading of finished feeds—a pretty substantial cost bite. In many mills the proportion is probably greater. This aspect of feed plant operation has, of course, assumed greater importance with the multiplicity of feed types and additives in recent years. And this has meant that the increased handling, unless offset by improved equipment and greater efficiency, can account for a larger part of the costs to the feeder.

All of which leads to the point that it's significant that directors of the Midwest Feed Manufacturers Assn. have voted to finance a study of materials handling as applied to warehouse and loading operations in feed mills. (Feedstuffs, Feb. 23.) The detailed and specific study of this one major phase of over-all plant cost structure follows up last year's Midwest-sponsored general study of manufacturing costs in all plant departments. The results of the warehousing cost study will again be presented at the Midwest Feed Production School.

As the industry has become more competitive and more cost-conscious, as labor costs have risen, research like that sponsored by the Midwest has taken on greater importance and value, helping processing and handling to catch up with nutrition advances.

★ ★ ★

THIS takes us back to our first statement (about doing an increasingly efficient job of helping the producer convert feed to profit). And we can see that the new plant study is involved in a question of some broad significance, too—broader than the immediate prospect of helping a mill reduce a certain cost factor and be more competitive in an increasingly competitive business. It actually can be viewed as another significant development in the whole question of the future role of the feed industry in a changing agriculture and a fast moving economy.

Just where and how will tomorrow's feed be mixed and then moved to the birds and animals? This, of course, is a question involved in continuing discussions of such things as increasing farm size, greater specialization, integration, more use of concentrates, decentralization in the feed business, more local mixing, the possibility of more on-the-farm processing with new farm-size automatic equipment, and so on.

It might be said that some of these things come and go. Yet, in these days of change, some concerns are investing real money and talent in trying to come up with answers as to where feeding and feed processing and distribution are headed.

★ ★ ★

AT any rate, the feed industry as it is now constituted will be able to hold or improve its position only to the extent that it can do a better job than any other segment of the agricultural economy in helping to convert feed resources to quality food at more net profit to producers. And in that job, in addition to designing and compounding better feed products, handling and distribution will be increasingly important.

No doubt the industry can and will continue to adjust its products and services to any changes that do develop. But it will take some doing, some real attention to trends and new developments, and action to apply capital and know-how in the right places.

Involved in any improvements and adjustments in an industry dealing in materials will have to be the basic job of materials handling—by the feed manufacturer as well as the feeder. Everyone would like to know just what the future pattern of feed processing and feeding will be. But it is clear that anything that can be done to improve efficiency and lower handling and other costs will be a basic piece in the pattern that will emerge.

A FEEDSTUFFS FORMULA FEEDS: HOW'S BUSINESS? FEATURE

Over-all demand for formula feed did not change appreciably this week, although most manufacturers were fairly optimistic about better sales prospects before too long. While some areas—and individual manufacturers within areas—noted better tonnage, some areas experienced moderate downturns in demand. Starter feeds for pigs, chicks and turkeys were getting more attention, and a more-or-less steady improvement in this business was anticipated. Ingredient markets reflected moderate changes. Strength in millfeed was a feature of the week's trading. The index of wholesale feedstuffs prices advanced .4 point to 81.5 and the feed grain index advanced .4 point in the week ending March 13. (Ingredient details on pages 110-112.)

Southwest

Sales of formula feed slowed down further this week in the Southwest, and mills had more difficulty making a five-day operation. Quite a few dropped to four and four and a half days. Volume of business continued to disappoint sales departments, although there was some indication that a pickup might be just around the corner, as truck business showed some tendency to improve late in the week.

The normal spring upturn in chick feeds has shown a lagging tendency, and there is no great interest in egg feeds. This is the most pronounced area of dullness and, rather than any big drop in over-all sales, seems to be the cause of sales managers current worries. Taken as a whole, feed sales since Jan. 1 are fully equal to that of the like period last year.

Ingredient prices showed little change this week, and there was not much change in feed manufacturers price cards. A few were up slightly.

There was a very slight gain in the Texas area, but generally the sales picture remained about as it was last week. Feed manufacturers were most optimistic that the current dullness was nearing an end. Turkey poults have started moving. Mill running time continues subnormal, with only a few plants on a five-day basis. Prices held about unchanged, oil meals and alfalfa meal were down somewhat, while milo showed considerable strength, gaining 6¢ cwt. this week, a significant advance for the major feed grain of this area.

Northwest

Formula feed demand showed improvement in spots in the Northwest, although some manufacturers indicated that not much change had occurred in relation to recent weeks.

Reports were mixed regarding chick starter feeds. Some firms noted a definite pickup, while others reported that buying of this type of feed was off to a slow start. All are agreed, however, that volume is likely to be below that of a year ago.

Starter feeds for baby pigs are moving well, and this feed promises to provide good volume this spring. Hog feeds also are in good demand for most manufacturers, and turkey feed sales are increasing to heavy volume.

Sales of dairy feeds appear to be holding up better than a year ago for some firms, although demand was reported quiet by others.

Some encouragement was seen in an improvement in egg prices from a low of around 22¢ doz. in the country to 26¢ doz. for Grade A's, although prices are still not satisfactory.

Operations were stepped up to include a Saturday run at one large plant, but otherwise production remained the same. The blizzard that arrived in the region late in the week was expected to slow truck business for a few days.

Southeast

According to some reports from the trade this week, feed business is only slightly better than it was last week. Pastures are reported to be in good shape in Florida, and feed demand is particularly draggy in that section. Mild and open weather prevailed over a large portion of the Southeast this week, which has contributed to the dullness in feed demand.

Citrus pulp production has slowed to some extent since this is the in-between season for Florida fruit crops. Production is expected to be on a small scale for the next several weeks. Supplies of ground snap corn in the Southeast remains tight, and the movement is slow, due to high asking prices.

Baby chick placements in the north Georgia broiler producing area were down slightly for the most recent reporting period but are still considerably ahead of the same period last year.

Feed mill running time is reported to be only fair, with some of the larger feed mills running only five days a week. Most feed manufacturers report that running time is mainly on broiler and poultry feeds. Feed inventories are rather high, and purchasing agents are taking only immediate needs.

Ingredient prices in the Southeast have declined in order to try and stimulate demand from the trade. Resale offerings of Mississippi Valley soybean meal are being passed around in the Southeast by sellers in Oklahoma who had bought this meal earlier. This has further depressed the market and caused buyers to proceed with caution. Shippers report that shipping instructions are in many cases late or coming in very slowly.

Most of the feed trade is optimistic that the spring feed demand is close at hand, and feed business should be better beginning in the very near future.

Northeast

The familiar pattern of recent formula feed sales ruled again when an early upturn in sales faded late in the week. The decline wasn't general, but demand began to subside March 13, and the outlook for next week was called none too good. When the letdown started some feed manufacturers began to trim excess stocks of raw materials.

The reason for the latest letdown was puzzling to the trade because it was thought the early show of improvement pointed the way to the seasonal pickup that is due at this time.

Egg mashes again carried the bulk

(Continued on page 114)

how science's latest developments are applied to feed manufacturers' problems...

PETER HAND

puts its research farm to work for you

The illustrated section of the recently enlarged 450-acre Peter Hand research farm contains (counter-clockwise): large broiler house with capacity for more than 10,000 birds; special chick finishing house; unit for mixing experimental rations; storage shed; barn and concreted yards exclusively for swine; farrowing house, its second floor equipped with batteries for starting chicks.

Not shown in photo is a 400 ft. x 50 ft. turkey rearing house and sunporch; pig rearing unit; and cattle barn. The farm, and its research program is headed by Dr. H. S. Wilgus, recognized authority on poultry and animal nutrition.

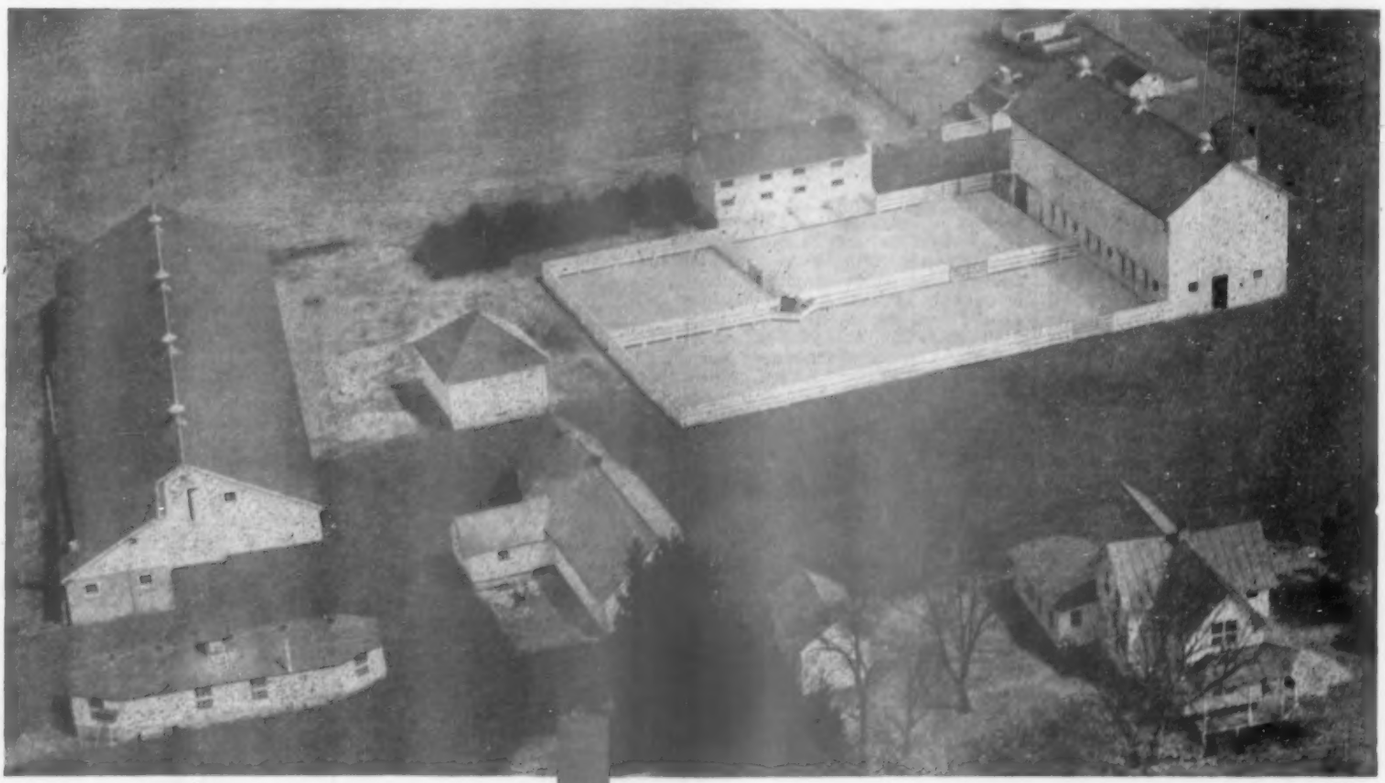
Among many projects conducted at the farm have been: use of Lipamone in improving weight gains and feed efficiency of poultry; relative effectiveness of antibiotics; observations on control of CRD with vitamins and antibiotics; effect of energy levels on optimum vitamin levels.

You, as a successful feed manufacturer, know that there is no one "magic formula" to cover all needs. But do you have the time and facilities to test and to evaluate all of science's latest findings before applying them to your own practical problems? At Peter Hand we can help you go a long way toward doing this through our continuous experimental program on the Peter Hand research farm.

Our staff has the facilities for testing and evaluating nutritional developments. Their conclusions and recommendations, backed by actual experiments on our research farm, can help you avoid costly mistakes and waste.

This built-in feature in Peter Hand products multiplies their effectiveness, increases both their quality and dependability. And it is a way to make sure you are answering your particular feed problems with science's latest developments.

Add these benefits to your service now!



superior quality
custom pre-mixes
blended to your exacting
specifications

©1956, P.H.B.Co.

PETER HAND FOUNDATION
Division Peter Hand Brewery Co.
1000 W. North Ave., Chicago 22, Ill.
MOhawk 4-6300

Peter Hand Foundation, 1000 W. North Ave., Chicago 22, Ill.
Please send me complete information on the services you offer to feed mfrs.

NAME _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

265 Hear Research Reports At Distillers Feed Conference

By DON E. ROGERS
Feedstuffs Editorial Staff

CINCINNATI, OHIO — Up-to-date information on nutrition of poultry, swine and cattle was presented to about 265 delegates to the 12th annual conference of the Distillers Feed Research Council at the Sheraton-Gibson Hotel March 13. Included in the audience were scientists from universities, formula feed manufacturers and the allied trades.

A good portion of the program was devoted to the feeding experiments involving distillers dried grains and solubles now being conducted under the sponsorship of the DFRC at a number of educational institutions.

Officers Elected

Dr. Frank M. Shipman, Brown-Forman Distillers Corp., Louisville, was elected president of the council for the coming year, succeeding Cloud L. Cray, Jr., Midwest Solvents Co., Atchison, Kansas. This is the second time Dr. Shipman has been chosen president, his first term having been in 1947.

E. P. Henderson, Schenley Distillers, Inc., Cincinnati, was elected first vice president, and Dr. C. S. Boruff, Hiram Walker & Sons, Inc., Peoria, Ill., was chosen second vice president. Howard Jones, Distilled Spirits Institute, Washington, was reelected secretary and assistant treasurer, and Millard Cox, Kentucky Distillers Assn., Louisville, was renamed treasurer and assistant secretary.

Dr. L. E. Carpenter, executive director of the council, was reappointed to that position, and conducted the conference.

The business sessions concluded with the usual question and answer panel composed of the program speakers and moderated by Dr. E. I. Robertson, John W. Eshelman & Sons, Lancaster, Pa.

The council entertained the delegates and their wives and guests at a noon luncheon and evening social hour, followed by the annual banquet.

An exhibit of distillers feeds and the important parts they play in poultry and animal nutrition was shown in the hotel lobby. The live part of this exhibit this year was a baseball-playing hen, which attracted lively attention with her ability to obtain a few bites of feed by hitting a ball to a feed-releasing trigger in the outfield of a miniature ball diamond.

C. L. Cray, Jr., vice president, Midwest Solvents Co., Inc., in his president's message, reported production of distillers dried grains and distillers dried solubles during 1956 amounted to 285,000 tons. This compared with 250,200 tons in 1955, 244,900 in 1954 and 185,700 in 1953. Mr. Cray estimated 1957 production at 300,000 tons.

Production reached an all-time high in 1951 of 633,900 tons due to increased activity resulting from the Korean war, but fell to a low level in 1953 as a readjustment of this peak activity. The gradual increase in recent years appears to be bringing production back to normal.

Mr. Cray noted that the DFRC sponsors 11 nutrition research projects at eight academic institutions involving feeding tests with chickens, turkeys, swine, dairy cattle, beef cattle, sheep, rabbits and dogs. All of these projects have contributed information that has application in feeding programs, he said, and research has proven that distillers feeds are unique because they contain unidentified growth promoting substances that are required by livestock and poultry.

Feed Industry Prospects

Richard L. Kathe, director, agricultural services division, American Feed Manufacturers Assn., traced recent industry developments and then provided a look at 1957 and future trends and prospects. He outlined

(Continued on page 10)

Max W. Bordner

APPOINTED BY BROILER COUNCIL—Max W. Bordner, Springfield, Mo., has been named Midwest manager of the National Broiler Council Frank Frazier, executive vice president, announced. Mr. Frazier said growing support for the council's sales promotion program and the number of large retail broiler markets in the Midwest made it desirable to assign a staff man to the area. Mr. Bordner has 12 years experience in the poultry and livestock industry. He studied animal husbandry and veterinary medicine at Ohio State University. He also attended the Army Veterinary School and served overseas in the meat and food section of the Army Veterinary Corps.

Oregon Feed Group Elects President

PORTLAND, ORE. — Fred Trullinger, Jr., manager of Portland (Ore.) Seed Co., was named president of the Oregon Feed & Seed Dealers Assn. at the closing session of the two-day annual convention of the group. He succeeds William Stoll, H. J. Stoll & Sons, Portland.

Harold Davis, McMinnville, Buchanan-Cellers Grain Co., was elected vice president, and Fenn Emerson, Charles H. Lilly Co., Albany, was named secretary-treasurer. Elected to the board of governors were Howard Jenks, Jr., Jenks-White Seed Co., Salem; Alec Runciman, Webfoot Fertilizer Co., Portland, and Ira Elsham, Cargill, Inc., Portland. Reelected were Walter Scott, Jr., Scott-Palitzsch Feed Mills, Portland; Ernest Warner, Gresham Feed & Seed Co., and Jim McDowell, McDowell Bag Co., Portland.

Mr. Stoll announced before leaving the office of president that the practice of giving cash awards to outstanding Oregon State College juniors in poultry, dairy and animal husbandry has been discontinued. It will be replaced by an annual school of agriculture student loan fund contribution of $600. This year's check was turned over to William Langan, executive assistant to the dean of Oregon State.

Nearly 700 association members attended the meeting which featured discussion of trade problems March 14 and educational topics March 15. A summary of the discussion will appear in a later issue of Feedstuffs.

James Robinson

NAMED BY CORN MILLERS—James Robinson has been named executive director of the American Corn Millers Federation to succeed Harry Hunter, director for the past 23 years, according to an announcement by Spencer Werner, federation president. Mr. Robinson has been associated the past several years as an executive for the Byrnes Marcellus Co., a professional management organization. He will assume his new duties March 25. He has been a university instructor and has experience in sales and promotion as well as public relations.

Minnesota Bills Aim At Screenings Control

ST. PAUL—Bills have been introduced in both houses of the Minnesota State Legislature relating to the control of screenings.

The legislation would make it unlawful to sell screenings containing prohibited weed seeds or restricted weed seeds, as defined in the bills in excess of specified amounts. The bills would exempt from their provisions screenings which have been "devitalized."

The Senate bill is designated S.F. 909 and the House bill is H.F. 1009. They have been referred to the agricultural committees of the respective branches.

A. E. Staley Co. Averts Threatened Strike

DECATUR, ILL.—A strike that would have been the first in the 45-year history of the A. E. Staley Co., corn and soybean processing firm, has been averted. The union and company negotiators reached a settlement the day before the strike was to begin.

A company spokesman said the dispute, involving some 2,200 employees, stemmed from interpretation of contract provisions, particularly as they applied to overtime.

General Mills Comments on Egg Programs

MINNEAPOLIS — D. H. McVey, vice president and general manager of the feed division of General Mills, Inc., this week described as beneficial the poultry industry's current discussions of quality egg programs.

"In many of these contract programs, poultrymen, the feed manufacturer, equipment suppliers and processors work together to assure the production of top quality eggs," a company release pointed out.

General Mills has been a coordinator in so-called "package" egg programs involving producers and feed, equipment and produce people.

However, Mr. McVey's statement noted, General Mills itself "has not guaranteed nor does it contemplate guaranteeing a minimum price for the eggs or any premium for them. Some processors, however, have made arrangements for the payment of a premium."

Contract production of eggs and other aspects of current poultry industry developments have been the subject of widespread discussion recently, particularly in the East.

Mr. McVey's Comments

In a statement issued this week, Mr. McVey said:

"Current discussions of quality egg programs should be very helpful to the poultry industry. They are emphasizing the opportunity to get better prices for the farmer who consistently produces high quality eggs. Labeled merchandise backed up by careful quality control has been demonstrated time and again to bring a premium at the market place. High quality eggs should not only bring a premium, but also increase consumption.

"The quality egg program in which General Mills has participated in a limited way seeks to get a premium price for a premium egg. The program is a coordinated action of several parties, each handling his part of the effort. General Mills furnishes feed and sales service to the grower. Other parties supply the chicks, equipment, and the marketing of the eggs.

"Participants in the program will vary according to the area to be served. Egg processors may be licensed to use the General Mills trademark 'SureFresh' providing they meet certain standards in the handling and merchandising of the eggs.

"General Mills has not guaranteed nor does it contemplate guaranteeing a minimum price for the eggs or any premium for them. Some processors, however, have made arrangements for the payment of a premium. The company hopes that processors handling such quality eggs will be able to command a premium price at the retail level, thereby being able to pay a premium to the producer for his efforts."

Midwest Feeding Film Ready

KANSAS CITY — A 25-min. film entitled "Progress of Nutrition," which was filmed at the press conference during the recent convention of the Midwest Feed Manufacturers Assn. in Colorado Springs, Colo., is now scheduled for showing over numerous television stations in the midwestern area, Lloyd S. Larson, executive vice president of the association, reports.

The film starts off with a contrasting story of feeding 20 years ago and today and then goes into a series of interviews with Dr. Damon Catron, Iowa State College; Dr. J. R. Couch, Texas A&M College; Dr. E. L. Stephenson, University of Arkansas, and Dr. R. E. Moreng, Colorado A&M College. They discuss the latest pig, turkey, broiler and cage layer feeding practices.

When the television series is concluded, the film will be available to feed manufacturers who may want to show it at sales meetings, to farm youth groups or elsewhere. Prints can be obtained now at cost from the Midwest Feed Manufacturers Assn., 20 W. 9th St., Kansas City, Mo.

New Feed Law

AUSTIN, TEXAS — The new improved feed bill for Texas this week awaited signature by the governor. It was expected that the measure would be signed into law.

Jersey Queen

Here is the Jersey—proud offspring of hundreds of years of selective breeding. Her milk is so rich that she has made *Jersey* and *premium quality* almost synonymous.

The popularity of these fine animals attests the soundness of a program of *premium quality*. And modern feeding techniques, feed ingredients, and scientific formulation have helped make this *premium quality* program a profitable one.

We at Agri-Tech are proud of our part in this program. Our part has been, and will continue to be, supplying the feed manufacturer with the specification feed ingredients, specialized equipment, and research studies so necessary to continued progress in the dairy industry. In so doing we look forward—with you—to an even better, more prosperous animal agriculture.

Agri-Tech, Inc.

BOARD OF TRADE BUILDING KANSAS CITY, MISSOURI

TECHNICAL AGRICULTURAL PRODUCTS WITH CONTROLLED SPECIFICATIONS

April 4-6 Meeting Of Animal Health Institute Planned

WHITE SULPHUR SPRINGS, W. VA.— Speakers for the 17th annual meeting of the Animal Health Institute have been announced by D. L. Bruner, executive secretary.

The meeting, scheduled for April 4-6, at the Greenbrier Hotel, White Sulphur Springs, W. Va., will be attended by manufacturers of health products for feeds and for sale in packages, as well as research leaders and government officials.

Speakers and their subjects include: Dr. Damon Catron, Iowa State College, "Stress Factors in Animal Production;" Dr. John H. Collins, director, veterinary division, Food & Drug Administration, "You and the FDA;" Dr. M. R. Clarkson, Agricultural Research Service, "The New Animal Disease Center;" Wheeler McMillen, Farm Journal Inc., "Complications for Future Use;" Parke C. Brinkley, commissioner, Virginia department of agriculture, "Industry-Enforcement Relationship;" and Dr. H. E. Adler, University of California, "Some New Concepts of CRD."

A panel discussion of "Animal Health—Newest Livestock Production Tool," will be moderated by Everett Mitchell of the National Farm & Home Hour broadcast, NBC, Chicago. Panel members will be: Miss Janice Hullinger, Manly, Iowa, who showed the grand champion steer at the last International Livestock Show; Tillman Bubenzer, Conner Prairie Farms, Noblesville, Ind.; Dr. Wade Smith, Hy-Line Poultry Farms, Des Moines; and Earl McMunn, the Ohio Farmer, Cleveland.

Principal feature of the meeting will be the conferring of a distinguished service research award. It is the first such award and it will be given to a leading scientist in the animal health research field. Nominations have been made by a group comprised of college, U.S. Department of Agriculture and animal health industry representatives.

The dominant theme of the meeting will be the new concept of animal health now made possible by research and production in the animal health field. This concept is that of "using animal health as a profit-sharing tool of the livestock farmer—not merely as a loss minimizer."

Room reservations may be sent directly to the Greenbrier Hotel, White Sulphur Springs, W. Va.

Number of Layers About Unchanged

WASHINGTON — The number of layers on farms on March 1 was about 322.4 million, according to the U.S. Department of Agriculture's latest crop report. This represented little change from the total a year earlier of around 321 million hens and pullets of laying age.

Numbers were up a little in the west north central, south Atlantic and western states; down somewhat in the north Atlantic and east north central regions; and about unchanged in the south central states.

During the month of February, the nation's laying flock averaged 326 million layers, compared with 325 million a year earlier.

Egg production in February was off slightly from a year ago, chiefly because of one less day in the month this year.

BUYS INTO FEED FIRM

LUTESVILLE, MO.—Darrel Baker has purchased a half interest in the Shell Feed & Supply Co., Lutesville, and is now in partnership with Less Shell. Mr. Baker formerly managed the Farm Bureau Service Co. in Lutesville.

1956 EGG PRODUCTION AT RECORD HIGH

WASHINGTON—U.S. egg production in 1956 totaled 5,087 million dozen—3% more than the previous record 1955 output, according to the U.S. Department of Agriculture. Layers on hand during 1956 averaged 311 million, compared with 309 million in 1955. Egg production since 1950 has increased 4%. During this period layers decreased 8% and the rate of lay increased 13%. The rate of egg production per layer during 1956 was 196 eggs, compared with 192 eggs in 1955. The rate was at record high levels in all months except March, April, May and June.

C. G. White, Secretary Of Los Angeles Grain Exchange, Dies

LOS ANGELES—C. G. White, secretary-manager of the Los Angeles Grain Exchange since 1940, died Feb. 26 following a heart attack.

Mr. White had been associated with the grain exchange for almost 36 years and had been active in the transportation field. He served as chairman of the western division of the grain and grain products transportation conservation committee during World War II.

Mr. White was an active member of the transportation committees of the California Hay, Grain & Feed Dealers Assn. and of the Grain & Feed Dealers National Assn. His other affiliations included the Los Angeles transportation club, the Traffic Managers Conference of Southern California and the Pacific Coast Transportation Advisory Board.

USDA Offers Dry Milk

WASHINGTON — Approximately 405,000 lb. of nonfat dry milk unsuitable for human consumption is being offered for sale on a weekly bid basis for feed use only in the U.S. and Puerto Rico, according to the U.S. Department of Agriculture. The nonfat dry milk is stored in Puerto Rico where it was originally scheduled for use in the distribution program.

First bids on an "in store" basis are due not later than March 22 for acceptance the first of the following week. In subsequent weeks, bids will be due each Friday. The milk is packaged in 4½-lb. containers.

Combined Livestock, Poultry Inventory Shows 3% Drop

For state figures, see table on page 90

WASHINGTON — The combined livestock and poultry inventory on farms and ranches of the U.S. as of Jan. 1 showed a net decline of 3% from 1956.

This is pointed out in the U.S. Department of Agriculture's annual report on livestock and poultry numbers as of the first of the year.

The decline this year in overall numbers was the result of reduced inventories for each of the livestock species. Compared with Jan. 1 last year, cattle were down 2%; hogs, down 5%; sheep, down 1%; and horses and mules, down 9%. Chicken inventories rose 3%, and turkey inventories were up 17%; but this build-up in poultry was not enough to offset the decline in livestock.

(See tables on page 90 for complete details on livestock and poultry inventories in each state.)

In evaluating the different species by an index based on their economic importance, meat animals (cattle, hogs and sheep) were down 2%; work stock was down 9%; cattle kept for milk (cows, heifers and calves) were down 1%; and poultry was up 3%.

Present indications, USDA notes, point to a modest reduction in the overall level of livestock and poultry production for 1957. Spring farrowing intentions were reported to be down slightly, and fewer hogs were on farms Jan. 1. Reductions of 2% in the breeding herds for both cattle and sheep point to smaller calf and lamb crops. Farm flock producers indicated plans to cut baby chick purchases by 9%. Commercial broiler production probably will be up again but by a smaller margin. A net increase of 10% in the turkey crop has been indicated.

While the aggregate number of livestock and poultry on farms Jan. 1 was down, the level of prices improved enough to result in a half billion dollar gain in total value. This year's Jan. 1 gross inventory value of all livestock and poultry was $11.2 billion, up 5% from a year earlier. With hog prices up, hogs showed the greatest increase. Per bird values of poultry were down.

Cattle: The number of cattle and calves on Jan. 1 was off 2% from a year ago, and the total, at 95.2 million head, showed the first decline since 1949. Current inventories are the lowest since 1953. Much of the decrease showed up in the Great Plains States affected by drouth.

The total cattle inventory included 6.1 million head on feed for market, an increase of 4% over a year earlier. Compared with Jan. 1, 1956, all classes of cattle showed decreases. Cattle kept for milk—cows, heifers and replacement calves—were down 1%, while those kept primarily for beef were down 2%. Beef cows and heifers were down 2%; calves, down 1%; steers, down 4%; bulls, down 2%.

Hogs: Hogs and pigs on farms Jan. 1 totaled 52.2 million head, down 5%. The reduction reflects the cut in the 1956 pig crop. On a classification basis hogs and pigs under six months of age were down 2%, and hogs six months old or older were down 10%. Market hogs over six months old on Jan. 1 (excluding sows and gilts

(Continued on page 114)

March 25 Deadline On Freight Stand

CHICAGO—The Interstate Commerce Commission has postponed from March 16 to March 25 the date for filing statements in opposition to further increases in freight rates as they would apply to grain and feed products.

The American Feed Manufacturers Assn., which opposes further rate increases, reports that a number of members have prepared opposition statements and filed them with ICC.

Verified statements may be subject to oral rebuttal and cross examination, according to AFMA. Two hearings have been scheduled for the purpose of cross examination on the verified statements filed in the proceeding. The hearings are scheduled to be held in Washington at 10 a.m. April 8 in the office of ICC and in San Francisco's Sheraton-Palace Hotel at 10 a.m. April 17.

1957 Feed Production School Scheduled For Nov. 20-22

KANSAS CITY — Dates for the Midwest Feed Production School next fall were selected as Nov. 20-22 at a meeting of the production school committee in Kansas City March 7. The meeting will be held in the Municipal Auditorium in Kansas City this year. The new location will provide needed space for demonstrations by operating equipment in connection with some of the subjects presented at the school.

A feature of the 1957 school will be a detailed study of costs of warehousing. The board of directors of the Midwest Feed Manufacturers Assn. at its recent annual meeting appropriated $7,500 for the study of materials handling as applied to warehouse operations in feed manufacturing. There will be a more detailed and specific study of this phase of the manufacturing process than was made last year in connection with the general cost study of feed mills.

Lowell Judd, Albers Milling Co., Kansas City, is chairman of the committee this year. Other committee members present at last week's meeting were W. L. Alley, Pay Way Feed Mills, Kansas City; John Brensike and Carl J. Vosloh, U.S. Department of Agriculture, Washington; J. D. Johnson, General Mills, Inc., Minneapolis; Eric Carlson, Ralston Purina Co., St. Louis; James Leker, Staley Milling Co., Kansas City, and Lloyd S. Larson, executive vice president, Midwest Feed Manufacturers Assn., Kansas City.

BREAKFAST TIME—A new thyroprotein product for lactating sows was introduced at a press breakfast in Kansas City March 6 at the Muehlebach Hotel. Three college scientists were present to answer questions from the press about experimental work. The product, Stimulac H-1, is being sold by Agri-Tech, Inc., Kansas City, and the press conference was sponsored by that firm. A feature of the breakfast was the presence of a champion sow and her litter of pigs. Shown here overseeing a swine breakfast are, from left to right, Dr. C. W. Turner, University of Missouri; Loren Burns, Agri-Tech's technical director; Conwell W. Johnson, graduate student at Iowa State College who did much of the experimental work with the thyroprotein product for sows, and Dr. Damon Catron, in charge of the experiments at Iowa State.

Chicago Exchange Head Charges CCC Dumped Corn

KANSAS CITY—By dumping millions of bushels of 1952-53 crop surplus corn on the market in recent weeks, the Commodity Credit Corp. has demoralized grain prices for farmers who produce for the marketplace rather than government loans, Robert C. Liebenow, Chicago Board of Trade president, charged March 6.

Mr. Liebenow was a speaker at the annual Missouri Balanced Farming Recognition Day program here. He stated that CCC corn sales to domestic users appeared to be illegal since federal laws specify that such sales can only be made at prices above government loan levels unless the grain is going out of condition.

Domestic cash corn prices at Chicago have dropped 8 to 10¢ bu. since December because of CCC dumping operations, Mr. Liebenow said. World corn prices also have been driven down to bargain levels by the government's frantic sales efforts.

According to Mr. Liebenow, more than 2,000 cars of CCC corn came into Chicago in January and 4,825 cars in February. This represented over 50% of total receipts in January, he said, and over 75% of total receipts last month. Most of this corn graded high enough to lead trade interests to believe many CCC domestic sales have been illegal, he claimed. He continued:

"Through these dumping operations, CCC has driven corn prices under U.S. government loan levels. Thus instead of holding prices at a reasonable level, CCC has done just the opposite and corn farmers will default a larger percentage of their 1956 corn crop to the government. This will put an even heavier financial load on CCC which is operated with taxpayers' money."

James V. O'Leary

Commercial Solvents Names Sales Manager

NEW YORK—James V. O'Leary, former sales manager of Commercial Solvents Corp. biochemicals division, has been appointed general sales manager for the firm, according to an announcement by W. Ward Jackson, vice president.

In his new position Mr. O'Leary will be responsible for sales of all of the company's products marketed through five departments to users of industrial and agricultural chemicals, animal nutrition products, anti-freeze and other automotive chemicals and potable spirits.

Since joining the firm in 1927, Mr. O'Leary has held a series of increasingly responsible sales positions at the company's offices and on the field. He has been manager of the midwestern regional sales organization and manager of the firm's Detroit office.

He holds a M.S. degree from the University of Iowa, and is a graduate of Lawrence College in Appleton, Wis. He is a member of several professional chemists' groups.

USDA Egg Purchases Total 49,280 Cases

WASHINGTON—Purchases of 49,280 cases of large-size shell eggs were reported by the U.S. Department of Agriculture this week. The purchases are being made to help stabilize consumer prices. Total purchases since the buying started are now 217,998 cases.

Price ranges per dozen for purchases the week beginning March 4 by geographical regions and number of carlots were as follows: Midwest—31.46¢ to 32.45¢ per doz. for 86 carlots; Southwest—31.70¢ to 32.40¢ per doz. for two carlots; West—34.95¢ per doz. for three carlots. Total bids were for 116,188 cases from 34 bidders.

About $477,000 will be spent for the week's purchases. The total Sec. 32 funds spent so far are $2,227,000.

Niacinamide Price Reduction Announced

YONKERS, N.Y. — The Nepera Chemical Co., Inc., producer of niacinamide, has announced a price reduction on this vitamin to $9.50 per kilogram in 50-kilogram drums.

Milton S. Lasdon, president of the company, said: "This reduction is the culmination of years of effort to bring the price of niacinamide more nearly in line with that of its precursor, niacin."

"For many years," he said, "the amide form has been known to be the form in which niacin is found in the body and to be superior in most conditions to the acid."

Mr. Lasdon said the price reduction is the result of process improvements and increased production. He predicted that it will "enable many in the pharmaceutical, food, feed and allied industries who were formerly unable to use niacinamide because of the cost differential to change over to the superior form."

SAVE
NOT SPEND

The large Federal Budget has everybody conscious that it is better to save than spend—Mr. Feed Manufacturer apply this to your own business. Investigate Homogenized Condensed Fish—learn how you can save thousands of dollars by using Homogenized Condensed Fish, the concentrated whole fish product.

Homogenized Condensed Fish
DEHYDRATING PROCESS CO.

DEHYDRATING PROCESS CO.
209 NEW BOSTON STREET WOBURN, MASSACHUSETTS

PROVEN RESULTS

Fruen's

ACE BRAND
ROLLED OATS
(Steam Processed)

Feed manufacturers all over the country have proven that Ace Brand's fine quality at a competitive price is the answer to today's demand for lower feed costs.

Send for samples and prices today
Mixed cars shipped at straight car prices
Our Teletype number is MP 477

TOWER BRAND ROLLED OATS (Steam processed)
ACE BRAND ROLLED OATS (Steam processed)
WHOLE OAT GROATS
STEEL CUT OAT GROATS
BOLTED OAT FLOUR
GLENWOOD FEEDING OAT MEAL
FALCON BRAND PULVERIZED WHITE OATS
STANDARD BRAND PULVERIZED WHITE OATS
DAIRY BRAND COARSE GROUND OATS
CRESCENT BRAND PULVERIZED OATS
CORN OATS PELLETS (Corn-Oats)
MIXERS' PULVERIZED OATS
MIXERS' COARSE GROUND WHITE OATS
MIXERS' PELLETED OATS
APEX BRAND CRIMPED WHITE OATS
OAT FEED
STEAM ROLLED WHOLE BARLEY
GROUND BARLEY
PEARLED BARLEY FLAKES (Max. 2½% fiber) (steam processed)
GLENWOOD PEARLED BARLEY
STAR CRACKED PEARLED BARLEY
STEEL CUT WHEAT
ACME GROUND DOMESTIC FLAX SCREENINGS.

If you want pelleted and crumblized formula feeds under your private label, write us for details.

Millers TO THE FEED TRADE

FRUEN MILLING COMPANY
MINNEAPOLIS 5, MINNESOTA

Texas City Firm Reorganized Under Coronet Operation

NORFOLK, VA.—Approval of the reorganization of Texas City Chemicals, Inc., manufacturer of dicalcium phosphate and sulphuric and phosphoric acid, under the management of the Coronet Phosphate Co., division of Smith-Douglass Co., has been announced. Confirmation of the plan of reorganization was entered in the U.S. District Court for the southern district of Texas.

As reorganized, the parent Smith-Douglass Co. becomes the sole stockholder of Texas City Chemicals, Inc., which will be operated as a separate corporation, under the management of Coronet Phosphate division.

The action places Coronet in both the dicalcium and defluorinated phosphate markets and simultaneously makes it one of the leading suppliers of phosphorus to the feed trade. Distribution advantages of Texas City production to feed manufacturers in the Southwest, Midwest and on the West Coast were stressed in a company announcement.

Texas City Chemicals completed a large dicalcium phosphate plant in 1953. The plant ceased operation in January, 1956.

Smith-Douglass said that it is anticipated that fertilizers and diversified chemicals will be produced at the Texas City plant.

♥ ♥

J. Paul Smith Co. Named Coronet Agent

FT. WORTH, TEXAS—The J. Paul Smith Co., Ft. Worth, Texas, has been appointed sales agent for the Coronet Phosphate Company's product, Coronet Dikal, for Texas, Oklahoma, Arkansas, Louisiana and New Mexico, announces Henry Highton, Coronet sales manager.

Facilities of Texas City Chemicals, Inc., now under management of the Coronet Phosphate Co., will produce "a uniform 19% phosphorus dicalcium phosphate product," according to company spokesmen.

The J. Paul Smth Co. has acquired a fleet of trucks for the convenience of feed manufacturers who want less than carload deliveries in the five-state area. The Smith company has been a supplier of feed ingredients for a number of years.

Broiler Prices in Delmarva Area Show Good Gain

SALISBURY, MD.—Broiler prices in the Delmarva area took a good jump in price last week, going to an average of 21.88¢ lb. The week before the price was 19.4¢.

Chick placements in 22 reporting states totaled 25,152,000 or 2% greater than the previous week and 5% above the same week a year ago.

Egg settings in the 22 states totaled 36,793,000 for the week ending March 9. This was nearly the same as the previous week but was 3% above the same week a year ago.

According to the Delaware-Maryland Crop Reporting Service, broiler chick placements in Delmarva at 3,564,000 for last week were 4% more than a week earlier and 3% above the same week of last year. Compared with a week earlier, both the local hatch and inshipments were higher.

The price of 20% broiler feed fell slightly last week going at $93.96 ton. The week before the price was $94.08. An improved price for broilers and a slightly cheaper feed made a more favorable meat-feed ratio. A pound of broiler meat would buy 4.7 lb. of feed compared to 4.1 the week earlier.

Petrus Hellman Conrad C. Johnson

Larvacide Products Stock Purchased By Panogen, Inc.

RINGWOOD, ILL. — A joint announcement by Petrus Hellman, president of Panogen, Inc., and Conrad C. Johnson, president of Larvacide Products, Inc., reveals that the two companies are joining forces as a result of the Panogen group acquiring the stock of Larvacide Products, Inc.

Richard P. Porter

Larvacide Products will continue to operate as a separate company under management of Mr. Johnson. Richard P. Porter remains with Larvacide as vice president in charge of sales.

Larvacide, Inc., will make its headquarters at Ringwood, Ill., instead of 117 Liberty St., N.Y., where it has been for many years. Notice of the change is being mailed to friends and customers of the company.

In the joint announcement, Mr. Hellman stated, "Our added manpower and resources will provide improved service to our combined trade throughout the country."

Panogen manufactures and sells seed treating chemicals, seed treating equipment and a soil treatment for the greenhouse and nursery trade. Charles M. Hutchinson, whose election as Panogen vice president was recently announced, continues as sales manager for Panogen.

Larvacide Products distributes soil and industrial fumigants, soil covers and similar items.

412,000 lb. Dry Milk Sold for Feed Use

WASHINGTON—The U.S. Department of Agriculture has sold about 412,000 lb. of stored dry milk, which has gone out of condition for human food purposes, for domestic feed use. Approximately 110,000 lb. in storage at Omaha and Lynchburg, Va., will be offered on bids, now open, until sold.

Successful bidders on the approved offers this week were as follows: M. E. Franks, Inc., New York, 162,150 lb., 9.12¢ lb., in store Anderson, Ind., Oelwein, Iowa, and Memphis; Land O'Lakes Creameries, Inc., Minneapolis, 44,000 lb., 9.06¢ lb. in store Ft. Dodge, Iowa; William Fitzgerald Milk Products Corp., Watertown, Wis., 104,000 lb., 9.33¢ lb., in store Nashua, N.H., and Mason City, Iowa; Mutual Products, Minneapolis, 63,685 lb., 9.17¢ lb. in store Chippewa Falls, Wis.; and H. C. Christians Co., Chicago, 38,250 lb., 9.26¢ lb., in store St. Cloud, Minn.

Feed Mill Official Hurt In Accident at Plant

FORT SMITH, ARK. — W. Ken Pierce, vice president and production manager, O. K. Feed Mills, Fort Smith, nearly lost his life in a freak accident March 6 when he fell in the plant. An emergency operation was necessary, and he is now recovering satisfactorily at Sparks Memorial Hospital, Fort Smith.

Council Lists Management Recommendations for Swine

CHICAGO—Two sets of management recommendations for swine have been released by the Nutrition Council of American Feed Manufacturers Assn., W. T. Diamond, AFMA secretary-treasurer, announced. The sets each represent a year and a half of intensive nationwide effort, Mr. Diamond said.

For many years, he noted, agricultural groups have issued management recommendations, but common to all of them was a lack of uniformity. The adoption of uniform recommendations by the Nutrition Council is a result of an intensive study of all available research. They have been carefully checked by nearly 200 authoritative sources including the nation's land grant colleges and experiment stations and the U.S. Department of Agriculture, Mr. Diamond said.

The new recommendations for swine are the latest of a series of uniform livestock and poultry management recommendations prepared by the Nutrition Council.

The two sets just approved for swine include 23 management recommendations for swine in the sow and litter phase and 21 recommendations for the breeding and gestation phase. The two sets are as follows:

SOW AND LITTER PHASE

GENERAL MANAGEMENT

1. Gilts to be retained for the breeding herd should be separated from the market herd at 4 to 5 months of age or at 150 to 175 lb. They should have at least 12 well-developed teats.

2. Gilts should be at least 8 months old and weigh near 250 lb. before they are bred.

3. Worming of sows and gilts before they are bred is recommended, and sanitary measures should be followed to prevent reinfection.

4. "Flushing" (increased feed intake) during the breeding season is recommended. The feed intake should be increased 7 to 10 days before breeding starts and maintained until all sows or gilts are bred.

5. Under conditions of hand, or individual mating, two services per

(Continued on page 113)

BREEDING AND GESTATION PHASE

HOUSING AND SHELTER

1. A farrowing house temperature of 55° to 65° F. is recommended provided adequate ventilation is obtained.

2. Heat lamps placed in a corner, accessible only to pigs, are recommended especially when the farrowing house temperature falls below 65° F. If a heat lamp of 250-watt size is used, it should be suspended approximately 24 in. above the bedding. Condition pigs to doing without the lamp by turning it off during warmer periods or by raising it.

3. Farrowing pens in a central farrowing house or individual farrowing houses should have a minimum size of 6 ft. by 8 ft. for gilts, and 8 ft. by 8 ft. for sows.

4. Farrowing stalls or crates should have widths of 20 in. for gilts and 24 in. for sows, and minimum lengths of 6 ft. for gilts and 7 ft. for sows. The space beneath the bottom board should be ⅓ the stall width. The recommended minimum width on each side of the stall or crate for pigs up to 2 weeks is 18 in.

5. Guard rails 8 in. above the bedding and 8 in. from the wall are recommended in central farrowing house pens and individual farrowing houses.

6. The farrowing pen or individual farrowing house should be lightly bedded with chopped or short straw or hay, shavings, ground corn cobs, bagasse, peanut hulls, cottonseed hulls, oat hulls, or other suitable bedding material. More liberal bedding may be used in unheated houses during cold weather provided it is short or fine material that will not interfere with the movements of the pigs.

7. Recommended shade area is 50 sq. ft. per gilt and litter and 60 sq. ft. per sow and litter.

FEEDING, WATERING SPACE

8. For self-feeding either in dry lot or on pasture, a minimum of one linear foot of self-feeder space or one self-feeder hole per sow or gilt and litter is recommended provided

(Continued on page 109)

Improvement in Range Conditions Noted in West

An improvement in range conditions in the western and midwestern states compared with a month ago is reported by the U.S. Department of Agriculture. However, conditions generally are still not as favorable as they were on the average during the past 10 years, says USDA.

Winter ranges and pastures were mostly open during February in Montana, North Dakota and South Dakota but old range feed was short with considerable supplemental feeding from generally ample supplies of hay and other feeds.

Texas has promising grazing prospects in the central and eastern sections, but the west has received only temporary relief. New Mexico has limited relief from rain and snow, with continued feeding of livestock. Lower ranges have opened in western Colorado and eastern Utah, with some moisture to start new feed. Range and pasture feed prospects have improved in Idaho, Oregon and Washington with improved soil moisture. The northern sections of Utah and Nevada have fair to good feed, but the southern sections have poor grazing. Arizona range feed has improved with rain needed in local areas. In California, range and pasture feed conditions showed marked improvement in all areas, USDA says.

Wyoming has short range feed but generally ample hay and other feeds. Nebraska ranges and pastures were open, with short feed, but it was possible to conserve hay and other feeds. Heavy feeding continued in the dry areas of eastern Colorado and western Kansas, with only limited local relief from snow and rain. Eastern Kansas has fair topsoil moisture. Range and pasture feed conditions improved in central and eastern Oklahoma, with some grazing on small grains, but the Northwest needs additional moisture, the USDA reports.

Purina Launches Dog Food Campaign

ST. LOUIS—The Ralston Purina Co. has launched an extensive national advertising and promotion program for its "New Dog Chow."

A recent issue of the company's dealer publication, The Merchant's Checkergraph, tells of the television and magazine advertising campaign and various selling aids.

The company is "actively and aggressively going after the No. 1 spot in the dog food industry, with a new Dog Chow, a power-packed ad campaign and mass distribution," the report said.

It was noted that with the new dog food now available in groceries, feed store sales on all of the company's dog foods improved.

And now....five cents more per Broiler!

Now...PROOF THAT ADDITION OF 1½% MARCOL B-75 TO MODERN FEED HELPS BROILERS GROW BIGGER . . . FASTER . . . DELIVERING UP TO FIVE CENTS MORE PER BROILER.

A high energy fat supplement, Marcol B-75 reduces the amount of feed needed to produce a pound of meat . . . and cuts days off growing-time.

Marcol B-75 helps broilers to grow. Tests at Texas A&M College have proven that Marcol B-75 is 12% more digestible than high quality animal fats. This means broilers convert feed-to-meat more easily.

Marcol B-75 speeds-up growth. In actual commercial production where 1½% Marcol B-75 was added to rations, broilers averaged in excess of three pounds in slightly over eight weeks. Over 41 pounds of meat were consistently produced per 100 pounds of feed.

Marcol B-75 is more palatable. Preference tests in the field and at experiment stations have shown time and again that broilers choose feeds with Marcol B-75 added.

Marcol B-75 assimilates better than animal fats, doesn't "ball-up" in feed. And being a liquid fat, it lays dust better.

Marcol B-75 is laboratory tested in each stage of production . . . constantly maintained quality control.

MADE EXCLUSIVELY BY

MARCO CHEMICAL CO.
FORT WORTH, TEXAS

Marcol B-75

a miracle of modern agricultural science — developed by the Marco Chemical Company — designed to accomplish many jobs in one.

1. MORE POUNDS ON LESS FEED
2. PRODUCTION TIME CUT BY DAYS
3. GREATER PALATABILITY
4. ASSIMILATES BETTER
5. LAYS DUST.

LET US SEND YOU PROOF THAT MARCOL B-75 INCREASES BROILER INCOME!

MARCO CHEMICAL CO., P. O. Box 8, Fort Worth, Texas

Please send me a FREE SAMPLE of MARCOL B-75.

Firm Name_____

Address_____

City_____ State_____

Attention of_____

DISTILLERS FEED CONFERENCE

(Continued from page 4)

some of the developments in the various phases of animal agriculture which will have effects on the feed business.

There is a potential for much greater feed business, he said, but the feed man must "evaluate each new trend and be sure his program includes the sounder measures. It will be so easy to get bounced off the fast moving express—too late to sweep off the dust and climb back on."

Mr. Kathe first traced the growth of formula feed tonnage up to 1953, when it fell off, by 2%, for the first time in many years. The industry he said, responded by using credit as a sales tool rather than a customer convenience. Sales increased 4% in 1954, only to decline 4% in 1955. Improved feeds, greater sales efforts and vertical integration, "as a chance to work feed mill profit out of the end product," bounced the industry back in 1956 with a 6.4% increase.

The future, Mr. Kathe said, seems to follow a course chained with three important links: (1) Customer demand — how much meat, milk and eggs will be consumed at a profitable price? (2) Farmer demand — how much feed will he use? (3) Feed profit—will the farmer pay more for feed than it costs to produce and sell it?

Mr. Kathe went on to take these links apart by commodities. In broilers, for example, he noted the tremendous growth in consumer demand. As for farmer demand for feed, feed quality alone, with its much greater efficiency, would have guaranteed complete saturation in use of manufactured feed for broilers, he said, but another tool, credit, which led to vertical integration, definitely assured a demand for broiler feed.

"This," he said, "has also forced the issue involved in the last link of the chain, net profit. For now, when net profits are considered, it is more a matter of wholesale broiler price versus cost of manufacturing feed."

Looking ahead at the broiler picture, he said many economists look for broiler prices this year to be no better than in 1956, with another increase in production bringing a total of between 1.38 and 1.45 billion birds in 1957.

More Concentrates

Mr. Kathe noted that turkey production has increased faster than turkey feed tonnage. This was attributed not only to better feed efficiency but also to more use of concentrates. With another increase in output this year, there may be another 15% drop in net profit below 1956, with prices around 25¢ lb. In the years ahead, it appears that more concentrates will be used, consumer demand keeping pace with increasing human population, and a lower net profit for the producer.

Discussing laying feeds, Mr. Kathe showed how tonnage hasn't risen much in recent years, with greater egg production efficiency and a smaller total flock. For 1957, flock size may not be cut back enough to bring improvement in egg prices.

He called attention to difficulties in increasing egg consumption and pointed to quality as the principal problem. In this connection, he mentioned one of the steps attempted to solve the problem—a feed company or dealer establishing a marketing program of his own, complete in every detail including a company brand identification on the egg cartons and in all promotion. This, said Mr. Kathe, is likely to expand considerably in the next two or three years.

Specialization in Layers

While a high degree of specialization took 15 or 20 years in broilers, this type of specialization, with a transition from farm flocks to large laying operations, may take place in eggs in only five years, Mr. Kathe said. This will mean a further increase in branded feed use.

Dairy feeds have become relatively less important to the feed industry, he continued, and before farmers use a much greater percentage of commercial dairy feed there will have to be more research on rumen functions and a few discoveries similar to stilbestrol for beef cattle.

In beef cattle feeding, some people outside the industry have thought that stilbestrol has brought an increase in total beef sales. However, this development hasn't solved all problems, for, said Mr. Kathe, beef feed tonnage has declined during the past five years. There has been a decrease in prices and values of cattle, and drouth conditions have hurt some areas.

In swine, Mr. Kathe cited the cyclical movements of production and prices, but during these gyrations, manufactured feed tonnage has increased, with much of the progress due to nutrition advances. It is likely, he said, that the surface has only been scratched in this direction, and management programs also are undergoing dramatic changes.

Integration in Swine

"Many wise heads in the feed industry," he said, "note that a combination of new developments in both feeding and management, plus greater financing of the swine producer, may mark this as the next step of integrated agriculture, following broilers, turkeys and laying flocks. For the feed manufacturer looking for potential . . . new large scale swine operations, springing up in expanding grain and pasture areas, are the objects of profitable scrutiny."

In regard to miscellaneous feeds, he said that production of dog food has caused some profitable speculation and equally disastrous results. "It wasn't too long ago," he said, "that a little dog food tonnage was just what an idle batch mixer and vacant dealer floor space needed. Tough, rough price competition took care of that. We are not in the business of urging anyone to enter the pet food field. For the brave, with a separate sales force considered to be expandable, the headaches are all yours for the asking."

Surveying feed business prospects for the future, Mr. Kathe pointed out that college men estimate the industry is now selling the farmer half the feed he should be using. But there is a tremendous potential even if no one is convinced to use more feed than is now the practice, for population growth can bring big feed use. The problem, then, he said, is not one of creating a market in the years ahead, but rather of evaluating each new trend and being sure that programs include sound measures.

Feeds for Milk Production

Problems in measuring the value of feeds for milk production were discussed by Dr. J. K. Loosli, Cornell University, Ithaca, N. Y. Experiment stations have difficulty in obtaining essential data with milking cows to answer dairymen's questions, he said. The limitation is largely the result of inadequate facilities and financial support.

He noted that dairy cattle nutrition research hasn't kept pace with advances in the laboratory phases of rumen digestion. For example, in vitro studies have shown the role in cellulose digestion of certain amino acids, combinations of short chain fatty acids and certain B vitamins. These findings, he said, suggest that a new field is ready to be opened, but

WHAT'S THE SECRET

The secret of lower overhead costs is the Hot Spot Detector System. In fact, we're so sure that we have the secret that we'll **guarantee** to save you at least 25% of the costs of turning your grain if you install the Hot Spot Detector System. We'll be happy to give you all the facts (backed by logic and proven figures) if you'll just drop us a card or letter. No obligation, of course.

HOT SPOT DETECTOR, INC.
213 THIRD ST. DES MOINES, IOWA

Your best way to burn refuse!

at lowest cost . . . safely—often lowers insurance rates . . . automatically

SAFELY BURNS REFUSE FROM 3,000 BUSHELS PER HOUR

BURNING OF EXTRA DAMP REFUSE IS AIDED BY BLOWER

Here's how the use of a Rees burner compares with other methods:

● Much faster. ● Much safer. ● Burns more thoroughly. ● Seldom needs cleaning. ● Feeds automatically. ● Needs no labor to rake unburned portions into flames. ● Needs no watchman. ● Saves cost of moving refuse far from plant for burning. ● Passes all safety and forest service requirements. ● Only Rees burners are thoroughly proven for burning grain-mill refuse.

BUILT WITH 40 YEARS OF EXPERIENCE

Unconditionally guaranteed better than any other burner of this type. Does a Rees burner cost a great deal? Not at all. Mass production for such firms as Quaker Oats, Long Bell Lumber Co., Ford Motor Co., and many others makes the price quite low. Your plant labor can put up a Rees burner in a few days. Simple to do. No crane needed. Or, we will manage construction, if you wish.

FREE! Send for illustrated literature

Rees Burner & Blow Pipe Co.
205 So. Front St.
Memphis, Tenn.
Please send me information on the Rees burners.
Name..... Position.....
Firm.....
Address.....

REES BLOWPIPE MANUFACTURING CO.
BERKELEY, CALIF. MEMPHIS, TENN.
VANCOUVER, CANADA

STARS IN FEED FILM—King Tut, famous bull used in Warner Bros. motion picture, "The Giant," has a new starring role in a new film released recently. The film is "The Birth of a Giant," made by the Albers Milling Co., Los Angeles. The film gives the life story of King Tut and the birth of the new Brangus cattle. It shows how King Tut was fed and fitted from the time he was born. King Tut has won several championships at livestock shows.

it still has not been shown that these various nutrients will improve performance under practical management. Meanwhile, Dr. Loosli said, "numerous untested supplements are appearing on the market, supported by flowery testimonials . . . Livestock men are being told so many conflicting things that many are inclined to believe nothing. In time dependable feed producers and high quality products will also suffer. The solution is to obtain the facts fast enough so that the truth can be known about all available products."

Dr. Loosli said that the generosity of the DFRC in supporting research with milking cows has made possible publication of much useful information on the value of protein sources. He said that the information on distillers feeds is of value to feed manufacturers and dairymen everywhere and that information of this type is essential for economy and efficiency in producing milk.

Cattle Studies

Dr. Earle W. Klosterman and Dr. Orville G. Bentley, Ohio Agricultural Experiment Station, Wooster, reported on growth factors and hormones in beef cattle feeding. Included in the report were results of tests with heifers comparing distillers dried grains with solubles and soybean meal. Results indicate that the distillers' product is fully equal to soybean meal when fed on an equal protein, fiber and energy basis. In three of four comparisons, the heifers fed distillers dried grains with solubles gained slightly faster.

In a wintering ration trial, some of the heifers were implanted with 36 mg. of stilbestrol. Average response was an increase in daily gain of .13 lb., which was significant.

Also reported were experiments to determine the value of adding certain rumen factors—valeric acid, biotin and para-aminobenzoic acid—to steer rations which included low quality roughage. It appears that the rumen factors in combination with B vitamins, but not valeric acid alone, had a slightly beneficial effect on daily gains.

Calf Feeds

Experiments in the use of corn distillers dried solubles and enzymes in calf feeds were described in a paper by L. Ratcliff and Dr. N. L. Jacobson, Iowa State College.

Their conclusion was that calves fed a limited amount of whole milk plus a gruel, starter and hay were less inclined toward digestive disturbances (diarrhea and bloat) when corn distillers dried solubles was included as a part of the gruel. Inclusion of animal diastase and pepsin in similar diets, with and without gruel, did not appreciably affect weight gain or feed consumption.

Dog Food

Speaking on the use of corn distillers dried solubles in dog feeds, Dr. C. M. McCay, Cornell University, said at a level of 7%, distillers dried solubles is satisfactory and can replace this amount of meat scrap or a combination of 2% tomato pomace and 5% dried skim milk in meal type dog feeds used in growth studies with Beagle and Cocker Spaniel pups.

A small number of Beagles were raised to maturity and 12 females

(Continued on page 14)

Wholesale Feedstuffs Price Index

INDEX NUMBERS OF WHOLESALE FEEDSTUFFS PRICES
BASE PERIOD 1947-49—100

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Aver.
1956-57	78.9	81.8	82.6	84.6	82.5	...	...	...	...	...	...	...	...
1955-56	80.4	76.4	77.3	77.7	76.3	75.2	79.8	84.7	83.2	81.3	81.1	78.9	79.4
1954-55	89.0	90.7	90.9	91.1	90.6	88.1	85.7	81.6	80.6	80.7	78.7	80.7	85.7
1953-54	82.6	83.5	92.5	95.7	97.7	101.6	109.3	104.8	99.7	101.7	99.2	90.3	96.6
1952-53	110.1	105.5	103.2	100.7	97.1	95.9	91.9	92.4	88.1	88.0	86.5	84.3	95.3
1951-52	108.9	112.1	114.1	115.2	114.3	113.2	115.2	114.6	113.9	112.5	120.7	116.3	114.2
1950-51	87.3	93.8	97.3	99.8	103.3	102.4	102.5	101.3	99.9	101.6	99.8	104.9	99.4
1949-50	86.8	85.8	87.2	84.2	82.7	86.7	90.4	96.8	93.2	103.1	94.4	89.0	90.0
1948-49	86.8	95.4	94.7	92.2	86.1	87.2	92.2	89.9	87.9	93.5	97.7	89.5	91.1
1947-48	117.3	117.3	126.0	135.7	117.2	113.5	114.3	112.6	114.8	107.6	91.7	92.2	113.3
1946-47	94.9	104.8	91.8	86.8	82.6	98.2	93.8	92.9	99.8	106.4	109.2	119.8	98.3

Compiled by Market News Branch, Grain Division, Agricultural Marketing Service, U.S. Department of Agriculture.

INDEX NUMBERS OF FEED GRAIN PRICES (CORN, OATS, BARLEY AND GRAIN SORGHUMS) 1947-49—100

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Aver.
1956-57	75.8	77.0	76.6	77.0	73.2	...	...	...	...	...	...	...	...
1955-56	69.3	69.3	73.0	72.0	73.8	78.4	82.9	84.5	84.3	86.4	86.6	83.9	78.6
1954-55	87.7	85.1	85.0	84.3	82.6	80.5	81.9	84.2	83.0	81.6	75.4	73.8	82.0
1953-54	82.2	82.6	86.5	86.1	85.2	86.6	87.0	88.7	89.2	88.2	89.1	89.4	86.7
1952-53	92.9	90.5	92.0	90.3	87.3	88.2	87.4	89.1	86.7	88.1	88.9	89.2	89.3
1951-52	98.5	103.9	108.7	107.7	101.8	102.0	101.3	101.7	101.1	100.1	101.1	98.8	102.3
1950-51	82.5	86.5	92.0	95.8	99.5	97.2	98.0	97.5	94.1	95.7	96.4	97.5	94.4
1949-50	68.9	69.0	72.9	73.5	73.3	75.4	80.3	83.7	83.8	86.3	83.9	84.1	77.9
1948-49	82.5	79.4	81.2	80.7	73.8	78.7	78.0	74.8	75.1	76.9	71.5	72.3	77.1
1947-48	131.7	136.0	145.2	150.3	124.6	130.0	129.8	127.9	127.7	114.4	103.0	96.4	126.4
1946-47	99.6	82.8	77.9	76.9	88.3	96.8	99.4	99.6	114.5	115.4	128.2	136.2	100.6

Compiled by Market News Branch, Grain Division, Agricultural Marketing Service, U.S. Department of Agriculture.

WHAT ARE YOU GOING TO DO ABOUT THIS GREAT NEW DISCOVERY IN MOLASSES-MEAL FEED?

Archer AD-MO-LAS

New 60% Molasses Meal won't "Set-up" in the bag. Pours like grain, mixes easily.

NO MORE troublesome lumps and clumps! The roadblock to bigger molasses-meal volume has been blasted wide open. Sales will climb when feeders learn about new Archer AD-MO-LAS. It's a rich molasses meal . . . a full 60% Blackstrap molasses that pours and mixes easily.

That's because Archer discovered a way to keep it free-flowing. Field trials have crowned it with outstanding success.

Now . . . you can get the jump on feed sales. You can handle rich molasses meal easily and profitably. AD-MO-LAS stays appetizingly moist and fresh. Yet it pours and mixes almost like grain.

What are you going to do about this great new discovery? Likely you want to push Archer AD-MO-LAS immediately. Get it fast! Stock it big! Or . . . you want to find out more about it—in a hurry!

ARCHER has prepared the information you need. Shipping points . . . carload rates . . . how it handles . . . the works. Just mail the coupon.

Available for truck pick-up at:

*Mankato, Minnesota
Northeast Feed Mill, Minneapolis, Minn.
*Marysville, Kansas
*Springfield, Illinois *Archer Mills

ARCHER-DANIELS-MIDLAND CO.
700 Investors Building • Minneapolis, Minnesota

YES . . . I am interested in AD-MO-LAS, Archer's new free-flowing molasses-meal feed.

☐ Where is my nearest LCL source?
☐ Rush data on carload rates and distribution points.
☐ Send detailed information about AD-MO-LAS molasses-meal feed.

Name _____
Firm _____
Address _____
City _____ *State* _____

YOU CAN'T SEE THE DIFFERENCE

IN THE FEED . . . . . .

But you save $3 to $6 per ton

One bag contains Baciferm at high level, the other a tetracycline-type antibiotic. One flock of layers got the Baciferm, the other flock the competitive material. There was absolutely no difference in results. Both antibiotics gave the same good performance. But what a difference in cost!

Get the difference — in dollars! It's a fact. College work, field trials, farm reports, test after test in state after state on layers, broilers, turkeys and swine all add up to the same thing. Gram for gram, the bacitracin in Baciferm equals the effectiveness of any other antibiotic used in feeds. And what a difference in dollars!

Baciferm costs you $3 to $6 per ton *less* than the tetracyclines. So if you, like hundreds of other dealers, produce 100 tons of high-level feed per month, you save $300 to $600 per month. Or from $3600 to $7200 per year. That's the difference — in Baciferm!

Nothing does the job like Baciferm. Baciferm contains bacitracin — the antibiotic with *selective activity*. That means that, unlike the tetracyclines, bacitracin has the special ability to work selectively — to knock out the dangerous bacteria (streptococci and staphylococci) while it leaves completely unharmed and fully productive the beneficial coliform bacteria that produce vitamins and other valuable growth factors in the intestinal tract.

Baciferm guards the entire intestinal tract. Scientists know that antibiotics do their most important work *in* the intestinal tract. Baciferm patrols the whole tract, safeguards every inch of its entire length! Baciferm does its *carefully selective* job right where the bacteria live.

ANIMAL NUTRITION DEPARTMENT **COMMERCIAL SOLVENTS CORPORATION**

IN CANADA: Reliance Chemicals, Ltd., Montreal, Que.,

IN ANTIBIOTICS

. . . . OR IN THE RESULTS

of feed with BACIFERM®!

And bacitracin's *selective activity* means no upset of the normal balance of bacteria.

Get Baciferm — get more than antibiotic, too. Baciferm supplements are *natural* fermentation products. That means extra values. In addition to the antibiotic bacitracin, you get significant amounts of B-vitamins, high-quality protein, vitamin K and unidentified growth factors. The bacitracin in CSC's Baciferm is the new, exclusive form of *ZINC* bacitracin which provides greater stability in pelleting and storage than other antibiotics.

Whatever feed you make — trust Baciferm. Nothing does the job like Baciferm. During disease and other stress periods, it knocks out secondary invaders, speeds recovery, cuts way down on mortality and stimulates appetite. Runt pigs blossom out, tail-enders forge ahead, pigs hog their way to market — fast. Broilers and turkeys eat their way right thru trouble and pile on the pounds. Layers, on high levels of Baciferm, high-tail it out of a laying slump back to full egg output.

Important new use for Baciferm is continuous feeding of layers at low levels to keep egg production high. Whatever feed you make, trust Baciferm to do the job — better. At a big saving! Write for the complete Baciferm story.

BACIFERM®

ZINC BACITRACIN ANTIBIOTIC SUPPLEMENTS

For High-Level Feeding at Low-Level Cost

260 MADISON AVENUE, NEW YORK 16, N. Y.

IN MEXICO: Comsolmex, S. A., Mexico 11, D.F.

CSC

are now being used for reproduction and lactation studies to determine if diets containing 7% distillers dried solubles are wholesome, he said.

Metabolism trials were run with adult dogs fed diets containing 7, 15 and 30% corn distillers dried solubles or the same levels of sucrose. These high levels of special ingredients can be fed without difficulty, indicating that dogs do not dislike them and do not object to eating such diets. High levels of corn distillers dried solubles cause some decrease in utilization of dry matter and tend to throw adult dogs into negative calcium balance, while 7% has little effect. The utilization of a dry feed is improved as the level of sucrose increases, but dogs do not seem to form a lasting taste for sweet diets. None of the components influenced the utilization of dietary fat which was absorbed in an amount equal to 90% or better, Dr. McCay said.

F. H. Baker, Kentucky Agricultural Experiment Station, Lexington, reported on further studies on the value of distillers feeds for ruminants. In summary, he said, the cellulolytic properties of corn distillers dried solub'es and alfalfa ash were demonstrated and studied in a series of five balance experiments with sheep. The elimination of a fat (corn oil) depressing effect on cellulose digestion was used to measure cellulolytic properties. The cellulolytic influence of distillers dried solubles is apparently due to an organic component. Higher levels of cornstarch, alfalfa ash and corn distillers dried solubles ash exerted a protective influence against the inhibitory action of corn oil on protein digestion.

Corn distillers dried grains with solubles was further evaluated in supplements to timothy hay in wintering rations for steer calves. The results demonstrated that mature timothy hay provides an inadequate amount of available energy for optimum winter gain of young beef cattle. It also was shown that corn distillers dried grains with solubles was equal to soybean oil meal on an equivalent weight basis as a constituent of Purdue Supplement A. Two pounds of corn distillers dried grains with solubles per steer per day fed as the supplement to timothy hay produced only slightly less annual gain on steers than did 3.5 lb. daily of Purdue Supplement A or modified Purdue Supplement A.

Response to UGF

The effect of calcium level and trace minerals on the response of young pigs to unidentified growth factors was discussed by Dr. W. M. Beeson, Purdue University, Lafayette, Ind. He summarized the results of five experiments thus:

"Throughout these experiments there was a definite relationship between the level of calcium, the incidence of parakeratosis and the response to the addition of various sources of unidentified growth factors. It was also noted that definite parakeratosis symptoms did not begin to appear until the pigs had been on experiment for four or five weeks. The lesions could be eliminated by feeding zinc. A depression in the rate of gain, however, was noted two or three weeks before definite parakeratosis lesions began to appear. Therefore, if these pigs had been removed from experiment after five weeks (when they were eight weeks of age), the gains would have been depressed; yet definite parakeratosis lesions may not have been present. The effect of calcium and zinc levels on unidentified growth factor response may explain a part of the variability reported from feeding various sources of unidentified growth factors to young pigs.

1. The greatest growth response from unidentified growth factor sources was obtained with a high calcium (1.06%) ration. High levels of calcium apparently acted as a stress factor as well as the predisposing factor in production of parakeratosis.

2. Additions of zinc, brewers' dried yeast, corn distillers dried solubles, dried whole whey and fish solubles (Larsen process) increased gains from 6 to 16% when added to the low calcium basal (0.68%) and from 17 to 45% when added to the high calcium basal (1.06%).

3. Zinc and factors other than zinc contributed by various sources of unidentified growth factors prevented or greatly reduced the incidence of parakeratosis and thereby increased the rate of gain.

4. A semi-purified low calcium (0.68%) ration containing 72 ppm zinc produced good gains and was not improved by the addition of pepsin, adenosine, divalonic acid, bromine or brewers' dried yeast.

5. These data indicate that a part of the variability obtained by feeding various sources of unidentified growth factors to pigs is due to an imbalance of known minerals, namely, calcium and zinc.

Broiler Experiment

Prof. T. D. Runnels, University of Delaware, reported on results of a broiler feeding experiment using finishing diets containing corn distillers dried solubles at 0, 2.5, 5.0 and 7.5% levels, menhaden fish meal at 0 and 2.5% levels, and combinations of these two ingredients, fed at productive energy levels of 1,000 and 1,100 calories per pound.

An analysis revealed that corn distillers dried solubles significantly improved average broiler weight at nine weeks. The growth produced at the 5.0% level was slightly greater than that for the 2.5% level and was the same as the 7.5% level. The growth response attributable to the fish meal, although not significant, appeared to be additive to the response from corn distillers dried solubles, indicating that they may be attributable to different unidentified growth factors.

Feed efficiency was improved

Read what the experts are saying about the growing spotted alfalfa aphid menace:

IN THE MIDWEST
"Infestations are building up rapidly..."
IN WASHINGTON, D. C.
"Estimates of dollar losses due to spotted alfalfa aphids: $4,839,500 (1954), $34,413,000 (1955), $41,860,765 (1956)"
IN THE SOUTHWEST
"Infestations of 7,000 to 10,000 aphids per square foot are common..."
IN MISSOURI
"Two or three aphids per seedling is enough to kill a stand..."

The sound answer to alfalfa aphid control... PARATHION plus community-wide spray programs spearheaded by alfalfa dehydrators

IMPORTANCE OF FULL-SCALE ACTION. Unless all fields in a growing area are sprayed, alfalfa aphids from the few unsprayed fields will soon cause major reinfestation. Halfway spray control is almost as bad as none.

WHY PARATHION? Properly applied, parathion gives greater aphid control than any other chemical available today . . . at a lower cost per acre.*

Following established safety procedures you'll find that parathion will do *exactly* the job you want it to do...completely, economically!

**Costs range from $1.55 to $2.25 an acre for all labor and materials*

Organic Chemicals Division, Dept. AG-2
MONSANTO CHEMICAL COMPANY
St. Louis 1, Missouri

MONSANTO

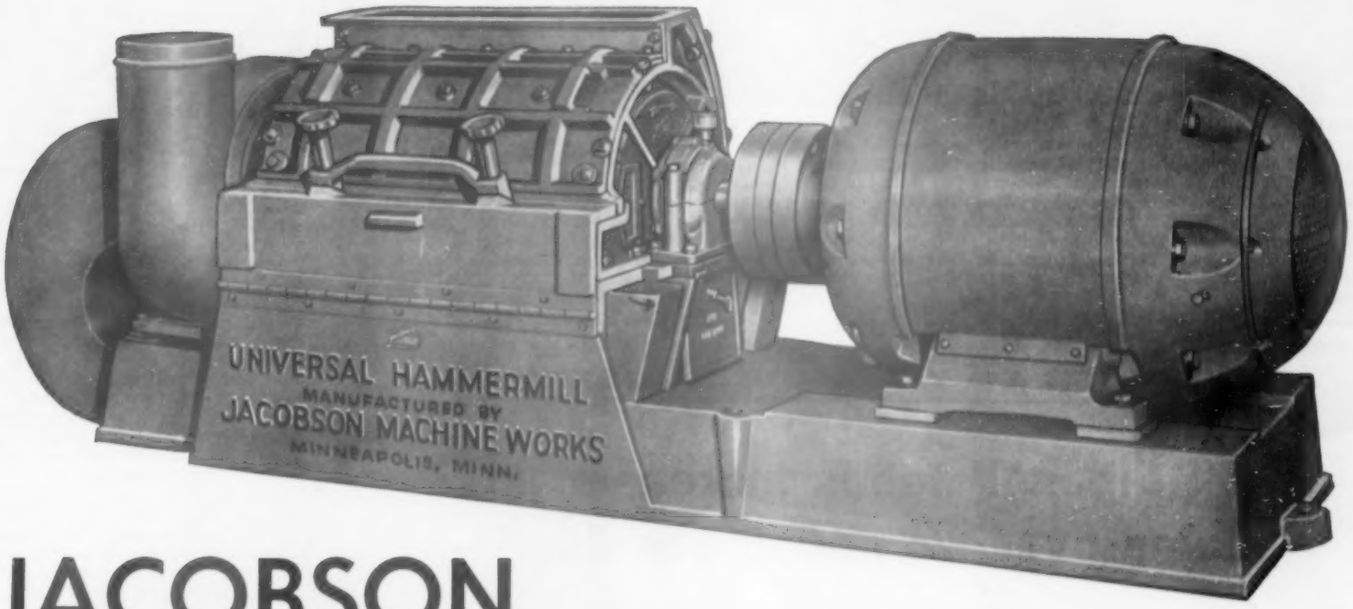
WHERE CREATIVE CHEMISTRY WORKS WONDERS FOR YOU

MOVING?

If you are moving, tell us about it, won't you? Your weekly copy of Feedstuffs will not follow you unless we have your new address right away. Make sure you don't miss a single important issue . . . and help us make the correction as quickly as possible by giving us your old address too.

FEEDSTUFFS
2501 Wayzata Blvd.
Minneapolis 5, Minn.

It takes the best hammermill to do the best grinding!



JACOBSON UNIVERSAL

6 SIZES
30 to 200 H.P.

OUTSTANDING FEATURES:

- **Heavy Monocast Base**
- **Extra Large Bearings**
- **Precision-Balanced Moving Parts**
- **Self-Sharpening Cutting Plate**
- **30-Second Screen Change**

For longer hammer life...

HARD-FACED HAMMERS

All new Jacobson Hammermills are now being furnished with Jacobson Hard-Faced Hammers as standard equipment. A concave wear pattern provides sharp cutting edges throughout the exceptionally long life of Jacobson Hard-Faced Hammers. To achieve this pattern and long life, Jacobson engineers and metallurgists started with hammers comparable to the finest found elsewhere. They subjected these hammers to additional surface hardening and hard facing techniques in special Jacobson heat-treating furnaces. The result was a hard-faced hammer at the very peak of abrasion-resistant toughness and long life.

Jacobson MACHINE WORKS

47 Years of Continuous Service to the Feed Industry

1090 TENTH AVE. S. E. Dept. M. MINNEAPOLIS 14, MINNESOTA

SPEAKERS FOR MFMA — Pictured here are some of the speakers who talked on "The Forward Look" theme of the annual convention of the Midwest Feed Manufacturers Assn. held recently at Colorado Springs, Colo. The speakers and their topics are, left to right, front row: Dr. Leslie Johnson, Iowa State College, swine; Dr. Lloyd Washburn, Colorado A&M College, range cattle; Prof. F. W. Atkeson, Kansas State College, dairy. Left to right, second row: Dr. Rollin Thayer, Oklahoma A&M College, laying hens; Dr. J. R. Couch, Texas A&M College, turkeys; Dr. Sherman Wheeler, Colorado A&M College, welcome address; Dr. W. H. Pfander, University of Missouri, cattle-dry lot.

slightly with each increasing level of corn distillers dried solubles and the addition of fish meal, but these differences were not statistically significant.

Pigment as measured by shank color was increased by addition of 2.5% corn distillers dried solubles.

The diets containing 1100 calories of productive energy per pound produced broilers with lighter colored shanks than those receiving the 1,000 calorie diets. This difference can probably be attributed to the reduced pigment in the 1100 calorie diet due to the replacement of ground yellow corn with feed fat, less pigment consumed due to improved feed efficiency, and possibly some oxidation by the fats, Prof. Runnels, concluded.

Chick and Poult Tests

Corn distillers dried solubles as a source of unidentified nutrients required by chickens and turkeys were discussed by Dr. M. L. Scott, Cornell University. He cited previous work showing the value of distillers dried solubles, fish solubles, dried whey and other unidentified growth factor sources in chick rations. Cornell work shows that young poults and growing turkeys also require these UGF sources and that breeding hen diets should be supplemented with UGF sources.

Dr. Scott went on to refer to early work where B_{12}, meat scrap or fish meal produce little or no growth response in hatchery poults or B_{12}-depleated poults unless the diet also contained sources of other factors such as distillers solubles, dried whey, brewers dried yeast or fresh grass juice. He presented results of an experiment showing that when the diet was supplemented with brewers dried yeast and dried whey, the further addition of fish meal and meat scrap promoted a marked growth increase. It appeared that fish meal and meat scrap supplemented each other to produce a growth increase above that obtained with either fish meal or meat scrap alone. In further studies, it was shown that a comparable increase in growth could be obtained by supplementing the diet containing 5% fish meal with .5% glycine. Recently Almquist reported that the glycine content of soybean meal is much lower than earlier figures indicated and that glycine content of meat scrap is high, thereby providing an explanation for the finding that glycine supplements fish meal in a manner similar to meat scrap.

In other studies fish meal was added to the basal diet as a source of the "fish solubles factor," and experiments were conducted to determine the growth promoting activity of distillers dried solubles, milk by-products, brewers dried yeast, grass juice and an antibiotic. It appears from the results that the main deficiency in a turkey ration containing fish meal is the grass juice factor. The results also show that distillers dried solubles, dried milk by-products and brewers yeast are sources of this factor for turkeys, Dr. Scott said.

The results indicate, too, that Aureomycin is capable of sparing the young poult's requirement for this factor. In further work, however, it was shown that Aureomycin will not always spare the requirement of this factor for turkeys, especially during the growth period after eight weeks. Data from one experiment show that a source of the factors in distillers dried solubles and brewers dried yeast is necessary to obtain growth promoting effect from Aureomycin during the 8-16 week growth period.

UGF Work

Dr. J. R. Couch, Texas A&M College, reported on work with corn distillers dried solubles in turkey feeds.

"A large amount of data has been accumulated to the effect that corn distillers dried solubles, dried whey, condensed fish solubles, butyl fermentation residues, antibiotic fermentation residues, fish meal and a number of other feed ingredients contain growth promoting activity for the turkey," he said. "A number of these supplements have been reported to be effective in stimulating turkey hatchability.

"Many workers have found within the last two years that the inorganic portion of some of the unidentified factor sources accounts for 50% or more of the growth promoting activity. Such minerals as bromine and molybdenum have been implicated in accounting for a portion of the effect of the inorganic fraction. Further work, however, is needed before the ash responses obtained in the various laboratories can be evaluated to a sufficient extent for an explanation

(Continued on page 102)

Lilly

REPORT TO THE FEED INDUSTRY

"'Stilbosol' feeds increased my gains over ¾ pound per day"

Combination of sharper management and 'Stilbosol' feeding produced 35% higher gains on Angus steers . . . cut cost of gain by at least three cents a pound.

by Eugene S. Hahnel

Glenroy Gruhn has been feeding cattle all his life. He generally feeds 175-200 head a year on his 347-acre Iowa farm. Recently, he was anxious to see how his 55 Angus steers would gain on a ration of shelled corn and 'Stilbosol'-fortified supplement.

Gruhn's steers averaged 724 lbs. when they went on feed. After 152 days on feed, he shipped the first load of 20 and they weighed 1131 lbs. for an average daily gain of 2.7 lbs. Gruhn had his steers on bluegrass pasture for 36 days of the feeding period which cut his average daily gain somewhat.

"I don't believe I ever got over two pounds daily gain before feeding 'Stilbosol,'" Mr. Gruhn says. "I figure 'Stilbosol' feeds increased my gains by over ¾ lb. per day . . . and they lowered the cost of gain by at least three cents a pound." Mr. Gruhn's convincing story of extra gains and lower costs, due to supplements with 'Stilbosol,' will be read by cattle feeders in Lilly ads in 20 national and regional farm magazines.

Mr. Gruhn is convinced that 'Stilbosol' helps him get the most out of his pasture and grain. Another valuable plus is the help from his feed manufacturer and dealer, which has made Glenroy Gruhn more aware of good management practices.

Gruhn (center), talks over his gain and cost figures with Harvey Schmidt (left), feed manufacturer's representative, and Bob Hamilton, his feed dealer. "I've improved my management through feed-dealer services," says Mr. Gruhn, "and regular cattle weighing has helped me do a closer job of cost accounting."

Glenroy Gruhn's ration included shelled corn and 'Stilbosol'-fortified supplement. He figures 'Stilbosol' feeding made possible the highest daily gains on these cattle of any he ever fed . . . nearly 2¾ pounds per day over a 152-day feeding period.

Lilly products for the feed industry

PROCAINE-PENICILLIN-G
CALCIUM PANTOTHENATE
'STILBOSOL'
VITAMIN B_{12}

'Stilbosol' is sold only to the feed manufacturing industry

Stilbosol

(Diethylstilbestrol Premix, Lilly)

Lilly

'Stilbosol' is Eli Lilly and Company's trademark for Diethylstilbestrol Premix which is manufactured and sold under exclusive license granted by Iowa State College Research Foundation, Inc., under its U.S. Patent No. 2731303.

ELI LILLY AND COMPANY, AGRICULTURAL PRODUCTS DIVISION, INDIANAPOLIS 6, INDIANA

CESCO MAGNETS

Equipment for the removal of iron trash from belt, duct or chute conveyed products

CESCO
4025 Sebastopol Hwy., Santa Rosa, Calif.

Write for Literature

Get SPROUT-WALDRON's

Big 4 Plus when you go bulk!

SPROUT-WALDRON FEED PIPER

The *Original* Pneumatic Bulk Truck

Pipes feed by air through a flexible steel hose to any bin...fast. Has almost unlimited "reach" and "lift." Handles mashes... pellets...and flaked, rolled, or whole grains, with or without molasses. Multiple compartments permit different feeds to be carried in same load without intermixing. A self-loading device (optional) makes possible two-way pay loads. Models available with capacities from 385 to 1350 cu. ft. Normally, capacities over 678 cu. ft. come in semi-trailer units.

Feed Piper is a trademark of Sprout-Waldron & Co., Inc.

SAVE MONEY! SAVE TIME! SAVE TROUBLE!

In every way, you'll save in the **end** when you **start** planning your own bulk delivery system through Sprout-Waldron. **Only** Sprout-Waldron offers the **BIG PLUS** values that are absolutely vital for a money-making, money-saving bulk system.

At Sprout-Waldron you have the widest possible selection of the most advanced pneumatic bulk trucks and all necessary auxiliary equipment...

PLUS expert engineering counsel and guidance on your bulk handling requirements as well as on installations for your customers...

PLUS personal instruction on maintenance and operation...

PLUS a dependable source for spare parts...

PLUS fast service for major repairs...

PLUS a reliability based on 90 years of service to the feed industry.

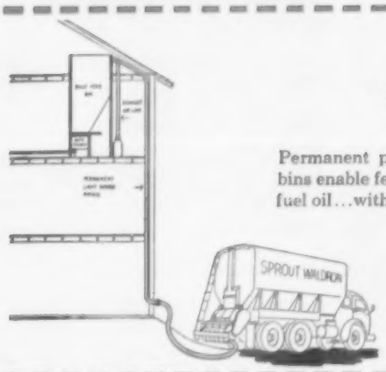
Sprout-Waldron's **BIG PLUS** advantages have put hundreds of feed millers in the bulk business on a profitable, more competitive basis. They can prove it pays to go bulk via Sprout-Waldron. Ask them. Names on request. And for more complete details on Sprout-Waldron bulk feed delivery equipment, write for Bulletin 156 today.

Feed Piper Conversion Unit

Makes your present truck a bulk truck with a pneumatic unloading system. Has the unloading advantages of the regular Feed Piper Bulk Truck. Enables you to meet bulk competition at low cost. Can be assembled and installed on do-it-yourself basis if desired.

Bulk Receiving Stations

Designs, engineering services, and major equipment for bulk feed receiving and distributing stations are available through Sprout-Waldron. Such stations can be located at RR sidings remote from the mill.



Permanent Pipe Installations

Permanent pipe installations to farmers' bins enable feed to be delivered as easily as fuel oil...without dusting Sprout-Waldron provides—without cost—guidance and complete information.

Free Sales Aids

Booklets on farm bins and on Feed Piper service and mats for newspaper ads are available for you to use in promoting bulk business locally. They help put you on a big-volume, profitable basis quickly.

PELLET MILLS • HAMMER, ROLLER, ATTRITION, AND BURR STONE MILLS • MIXERS • SCREW, BELT, AND PNEUMATIC CONVEYORS • BUCKET ELEVATORS • CUTTERS, CRUSHERS, AND FEEDERS • REELS, SEPARATORS, AND ASPIRATORS • BULK FEED TRUCKS • PERMAGLAS STORAGE STRUCTURES • BUHLER BROTHERS FLOUR MILLING EQUIPMENT

SPROUT-WALDRON

— The Best in Milling Equipment Since 1866 —

61 LOGAN ST., MUNCY, PA.

Exclusive Canadian Distributors: **Strong-Scott, Limited, Winnipeg**

FB/43

Wirthmore Official Outlines Experience with Bulk Delivery

The experience and views of Wirthmore Feeds, Boston, on bulk delivery of feed were outlined recently by Guy Ryan, assistant to the manager of the company's bulk feed sales division.

Mr. Ryan spoke at the sales convention of Sprout, Waldron & Co., Inc., Muncy, Pa., which manufactures pneumatic bulk unloading equipment and bulk trucks, and part of his talk dealt with his firm's experience with bulk delivery.

He said that where bulk delivery is offered, new business, both bulk and sacked, has been obtained. At the same time, he pointed out that bulk delivery may not be warranted to much extent in some areas.

Following are excerpts from Mr. Ryan's talk:

Companies such as ours have found that in areas where bulk delivery has been introduced, there has been an increase in their total business. Why has this been so? Why have we been able to successfully break the sales barrier in these areas?

I will try to point out a few of the reasons we have been able to uncover.

A salesman who has had bulk feed added to the tools in his sales kit has an item that establishes his company's services as being the most complete. On the other hand, if bulk is already accepted in the area, he welcomes it as the big equalizer. It has proven to be an extra something that every salesman likes to have when he is explaining the advantages of doing business with his company.

In his attempt to promote bulk tonnage in his territory and in the process of getting the word around to the local trade that his company is offering bulk delivery, he has been able to secure new business, both bulk and sacked. We feel one reason is that he is making calls with a purpose; he is enthusiastic. Bulk feed has given our boys something to talk about and has been one of the best door openers.

These tank type trucks, or "galloping billboards" as they are sometimes referred to, put the name of his company before the public in spectacular fashion. They carry a twofold message to his customers and prospective customers, alerting them that bulk delivery is available in the area and pointing to his company as a progressive one.

Bulk feed then accomplishes three things:

1. It generates enthusiasm both for the salesman and his customers.
2. Becomes a very effective advertising medium.
3. Denotes progressive thinking within a company.

Basic Reason

Along with these results, however, there is one basic reason why we at Wirthmore have explored this field. We believe that it is our responsibility as leaders in our own industry to provide the American farmer with those advancements which will make his operation more successful. The labor market certainly could not be considered a "plush" one insofar as help on the farm is concerned. Bulk feed accomplishes several things here; in some instances, bulk makes it possible to maintain the business within the family structure. In other cases, it allows the farmer to decrease his labor force and other times it provides the way to expand the operation without additional help, but in every instance where it has been installed, it has improved the working conditions on the farm.

The help on such a farm would think twice before leaving this farm to go to another where the feeding problem has not been met with the installation of bulk facilities. It could be considered a fringe benefit given by the farmer to his help. The farmer has recognized: "You pay for equipment once—you pay for labor every day."

Use Limited

We have always felt that high pressure salesmanship has no place in the feed business since the repeat order is the foundation on which we have built our company. We have a responsibility to correctly analyze customers' needs. We have found that in some areas the usage of bulk equipment is extremely limited. Until the area itself grows agriculturally, or the area demands this type of service, the purchase of such equipment would be foolhardy.

We in the Northeast find ourselves in one of the areas of the country which is almost tailor-made for the acceptance of bulk deliveries. This section of the country is referred to as a feed deficit area, and yet the consumption of grain and feed approximates 6 to 7 million tons annually. Almost all of this tonnage is shipped from a central milling point to a local distributor. The ultimate in handling this feed would be a mill manufacturing and shipping nothing but feed in bulk. This, coupled with the ability of the local distributor to receive and deliver in bulk, establishes the goal for which we at Wirthmore are striving.

You will recognize, however, that this cannot be accomplished overnight. Today we face competition from all sides; some of it is a pure price proposition with no regard to what it will produce. We feel, therefore, that the task of breaking the sales barrier demands that a company provide a quality product and those services to which his customer is entitled.

It has always been our aim to provide the farmer with the highest quality product at the lowest possible price. The fact that a company

HYGENO
POULTRY LITTER

patented protection

for CHICKS

• When you sell the BEST chicks and can't afford to gamble on less protection

U.S. PATENT No. 2014000

The only antiseptically patented litter. Dustless—reduces risk of respiratory troubles. Absorbs chilling moisture, keeps chicks snug, dry and warm. Fire resistant. Pays for itself in chicks saved and rich fertilizer.

STOCK HYGENO NOW
Cash In on National Ads

HYGENO LITTER COMPANY
BOX 582 • CAIRO, ILLINOIS

Announcing

DOWZENE DHC

Now your feeds can contain this recently approved advance in safe, sure parasite control. Widespread roundworm infestations make every hog and poultry raiser a potential customer.

Recent estimates indicate that more than 70 per cent of all hogs have worms. This represents an annual loss of more than $75,000,000 in feed waste and retarded growth. DOWZENE* DHC in one of your feed mixes makes it a must on every hog and poultry farm.

No other method, no other medication puts this promise of profits so squarely in your hands. DOWZENE DHC is the first hog and poultry wormer to offer all these advantages:

HIGHEST PIPERAZINE CONTENT

DOWZENE DHC contains more piperazine than any other available formulation. It costs less to use because you use less than with other formulations. No radical formula adjustments are necessary.

NO HARMFUL SETBACKS

Hogs and poultry can be fed formulas containing DOWZENE DHC and be worm-free in just the one day it takes DOWZENE DHC to work. Hogs weakened by severe roundworm infestations can be fed DOWZENE DHC with safety. Broiler flocks are wormed in a single day without stealing precious time from their growing schedule. Hens *stay* on the feed they need and are wormed at the same time.

NO TASTE PROBLEM

DOWZENE DHC is palatable in your feeds. It doesn't have to be forced—just fed!

NO WORMS LEFT IN THE SYSTEM

Roundworms are *eliminated* from the system by DOWZENE DHC. None of the worm debris remains to make more trouble. There's no residue problem with DOWZENE DHC either, which means farmers don't have to delay marketing.

NO MIXING, NO STARVING, NO DRENCHING

DOWZENE DHC just couldn't be easier to use. Growers simply buy from you their regular formula, to which you have added DOWZENE DHC. This feed may be given wet or dry. In just one day they *feed* hogs and poultry and free them of roundworms. Re-treatment can be done wherever needed without harmful effects.

NO WASTE FROM DETERIORATION

DOWZENE DHC stays ready for use indefinitely. It can be kept on hand at your plant, at the place of sale or on the farm without losing its effectiveness. And DOWZENE DHC remains stable regardless of temperature.

produces a quality product is no guarantee of success. The service that accompanies that product is as important as the product itself. Providing this service to the customer is the field in which we in the bulk department are directly concerned.

The age of automation that has alerted all of us to seek more efficient methods of conducting our business has made itself felt in the commercial feed business.

Economics

Now that I have shown you the increases at some of our stations, I think that the economics of this type of delivery should be touched upon.

The cost involved in the fixed charges is one of the factors which largely determines the amount of tonnage necessary to make this unit pay. Operating costs are, of course, important, but the fixed charges are the immediate problem to overcome. The only figure that can be used to find cost per ton is one based on delivered tonnage; it follows that the larger the divisor, the smaller the cost per ton figure.

One other factor that has a direct bearing on the operation of these units is payload.

The other factors involved are mileage and loading time. The ability to load these units quickly and restrict their length of haul makes for an ideal operation. One thing that can be deceiving in regard to these trucks is the cost per mile of operation. This is one figure that might well be left out of the records and income per mile substituted. Since this unit is purchased to provide income, the results must be measured in income versus operating cost. It could well be that the truck having the lowest cost per mile of operation would have the smallest income per mile figure; since having a great many miles to divide into the operating cost will give a low figure. By the same token, a truck having the highest cost per mile may well be the most productive unit in the fleet, since restricted mileage would insure more trips per day and allow a greater income on this unit.

Wirthmore recognizes the importance of this change in distribution and will continue to give it major attention in its plans for the future.

Texas Cage Clinic To Be Held March 27 At Texas A&M College

COLLEGE STATION, TEXAS — Cage egg production continues to increase, and on March 27 Texas A&M College will hold its 1957 Cage Clinic to present the latest information on cage layer operations. The event will be held in the Memorial Student Center at the College.

Ben C. Wormeli, extension poultry husbandman, points out that estimates from county agents indicate that there were 1,647,000 cages in Texas in 1956. This compares with 1,243,000 in 1955 and only 272,000 in 1953.

College and industry authorities will discuss various aspects of pullet replacement management and cage layer management.

Among the speakers will be Dr. J. H. Quisenberry of Texas A&M, who will discuss pullet growing and feeding systems; W. J. Moore, Kazmeier-Sherrill Hatchery, Inc., Bryan, Texas, talking on cost, performance and frequency of pullet replacements, and Dr. J. P. Delaplane, covering cage hen health.

D. F. King, Alabama Polytechnic Institute, will report on the control of flies and wet droppings; Dr. J. R. Couch of Texas will outline current developments in cage layer feeding; Jim Marr, Ralston Purina Co., St. Louis, will explain culling programs and management practices; B. J. Griffin of Texas will tell how to cool cage houses; and Prof. King will give a second talk, on financing cage egg production. E. D. Parnell of Texas will discuss egg quality, and K. F. Schlamb will describe opportunities for Texas egg production.

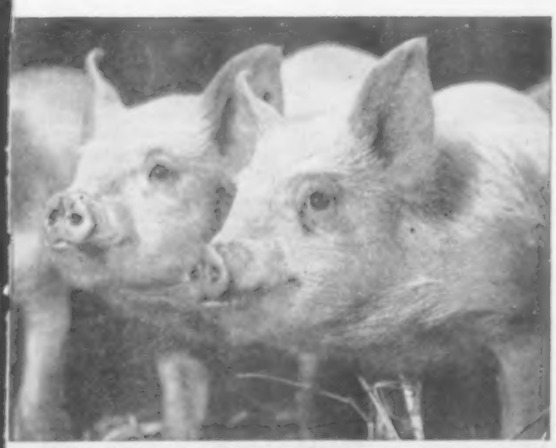
Mr. Wormeli and Harry Konen, feed consultant, Houston, will preside at the sessions.

John M. Hall

PROMOTED — The promotion of John M. Hall to assistant district sales manager for Allied Mills, Inc., Colonel district, Memphis, has been announced. Mr. Hall will aid George Uhlmann, sales manager, in sales supervision of the region comprising Mississippi, western Tennessee, part of Louisiana, Arkansas and Kentucky. He has been a poultryman with Wayne feeds' education service division at Libertyville, Ill., has operated hatcheries on his own and for Swift & Co., and formerly was a poultry inspector for the Tennessee department of agriculture. He is a graduate in poultry husbandry of Oklahoma A&M College, Stillwater.

DOW

. . . safe, one-day wormer for feeds



When you add DOWZENE DHC, you'll add feed customers. And you'll eliminate another variable in a complete, profitable hog or poultry management program—the danger of having your feeds blamed for damage done by worms.

Your present customers will thank you for the extra good they get out of the feeds they now buy from you. New customers will come to you for this important aid to profitable swine and poultry raising. Profit by using DOWZENE DHC to give your feeds this special market advantage. Get full information now. THE DOW CHEMICAL COMPANY, Agricultural Chemical Sales Dept., Midland, Michigan.

DOWZENE DHC is a formulation of piperazine dihydrochloride. It has the highest piperazine content of any worming formulation available.

*Trademark of The Dow Chemical Company

YOU CAN DEPEND ON DOW

THE DOW CHEMICAL COMPANY
Agricultural Chemical Sales Department
Midland, Michigan

Please send me complete information on DOWZENE DHC.

Name_____

Company_____

Address_____

City_____ State_____

LONFOSCO Soft Phosphate with Colloidal Clay

Prepared by: Loncala Phosphate Co.
High Springs, Fla.

Distributed by: Warren-Douglas Chemical Co.
1513-15-17 Burt St., Omaha, Neb.

Serving the Milling Industry A Complete Line of Quality Grain Processing Machinery for Over a Century.

B&L

BARNARD & LEAS Manufacturing Company INC

CEDAR RAPIDS, IOWA

Looking Ahead

By Al P. Nelson

When Joe Brooks came home for dinner that night, he entered by way of the kitchen as usual. One of the first things he always looked at was a neat blackboard which Mary kept on the wall. On this blackboard she had written the things that the family had to do that day, and it always saved time, because any member of the family could look at it and see what was "cooking," so to speak, for the family that day. It was also a sort of clearing house.

"Hi, Mary," said Joe cheerfully, at the same time glancing at the blackboard. "What's the idea of tacking that newspaper classified ad sheet on your bulletin board frame? Something special?"

Mary, a colorful apron over her dress, her cheeks flushed with heat from preparing the roast beef dinner, nodded. "Yes, for you," she said, bending down to check on the roast in the oven.

"For me?" Joe said interestedly. "What's it about?"

"After dinner," Mary cautioned. "It is never wise to discuss business matters over a meal. Meal time is the time to relax, to talk about other things than business. Otherwise you might get ulcers."

Joe frowned slightly. "Oh, shucks, I don't have ulcers. Tell me. It's not fair to get me interested, and then say 'wait' just like you were talking to a kid."

Mary looked at him, a flash of fire in her blue eyes. She was a woman one couldn't push too far. Some people called her independent; others said she was slightly stubborn at times. "You'll wait, or I won't tell you at all," she said. "Maybe I'd just better forget about this business idea."

"Oh, no, no," Joe said placatingly. "I'll wait. Guess I can read the paper in the meantime." He knew from past experience that it paid him money-wise to listen to Mary's business ideas. She had a rating of well over 50% on her ideas, and some of them had made Joe lots of extra profit, and the only cost to him was a new suit or dress now and then.

In fact, in order to needle Mary into thinking up ideas, Joe of late years never suggested to Mary that she buy new clothes. He waited for her to suggest ideas, knowing he would have to cough up now and then with a new dress for this or that workable idea.

Jimmie Gets Kicked

The dinner was delicious and enjoyed even by the twins. The only disturbing factor was when Jimmie got a kick on the shins under the table from Joe, Jr., his brother, for having taken the largest piece of cake. Joe, Sr., then had to lay down the law, and said, "Just for that, neither of you can have a second piece of cake. My rule is: never punish just one; punish both. Then you are sure you've punished the culprit."

When the dishes were done—with Joe's help, of course—Mary smiled sweetly and came and sat with Joe on the new sectional. When Mary smiled at Joe, he always forgot all the little irritations that sometimes creep up between man and wife over a long married life, but which can-

Each Year, More and More People Use CDP than Any Other Quality Phosphorus Supplement...

HERE'S WHY—

1 **Feed manufacturers** benefit from the dependable supply and uniform quality of this low-fluorine phosphorus supplement.

2 **All of the phosphorus** in CDP is biologically useable, making it the lowest cost, quality phosphorus product.

3 **Nutritional evidence** establishes CDP as the *best* phosphorus supplement.

GUARANTEED UNIFORM ANALYSIS

Phosphorus	Calcium	Fluorine
17.0% min.	34.0% min.	0.17% max.

Let us figure the cost of CDP Delivered to Your Plant

CDP Coronet Phosphate Company
NORFOLK 1, VIRGINIA
A DIVISION OF SMITH-DOUGLASS COMPANY, INCORPORATED

FRL FOOD RESEARCH LABORATORIES, INC.
Founded 1922
RESEARCH
ANALYSES • CONSULTATION
Biological, Nutritional, Toxicological Studies for the Food, Drug and Allied Industries
48-14 33rd STREET, LONG ISLAND CITY 1, N. Y.
Bulletin "What's New in Food and Drug Research" available on letterhead request.

INCREASE Your "Per Bag" Profit!
$ YOUR BRAND $

Mix Your Own Feed Brand with
BROWER Whirlwind FEED MIXER

Many feed dealers earn up to $1.50 profit per bag by mixing their own brand of feeds with the BROWER MIXER. The extra profits soon pays for the mixer. The "Whirlwind" mixes perfect blend in about 10 minutes — gives years of trouble-free service. Above and below-floor models. 5 sizes for mixing 700 to 4000 lbs. per batch. Write for details and prices.

BROWER MFG. CO. 484 N. Third St. Quincy, Illinois

Worlds Largest Selling Mixer!

This year, perhaps more than ever before, the poultry raiser is going to look long and hard at his production costs. *And*, if he's using feeds fortified with Borden's FLAYDRY-FERMACTO, he'll like what he sees!

FLAYDRY-FERMACTO, a product of Borden's program of continuing research, is truly one of the most complete standardized poultry feed supplements on the market today. It is a combination of *proved* fermentation products and the important nutrients of the "whey factor" complex, carrying the critical unidentified factors so essential for rapid growth and economical performance.

Yes, your poultrymen can expect new highs in efficiency and profits! Extensive research and practical feeding tests have shown that feeds built with Borden's FLAYDRY-FERMACTO have returned to the poultry raiser substantial *extra* profits from every ton of feed used!

BETTER FEEDS THROUGH RESEARCH

Naturally, you can't evaluate any product or program until you've heard the full story. So, we'd like to send you complete information about Borden's FLAYDRY-FERMACTO, including test data and sample formulas. Send for it . . . today!

THE Borden COMPANY
FEED SUPPLEMENTS DEPARTMENT
350 MADISON AVENUE • NEW YORK 17, N. Y.

Borden IS BASIC IN FOOD AND FEED RESEARCH

not wreck the mutual bond of understanding.

"Joe," said Mary seriously, "if the feed dealer can increase his store traffic, then he should be able to sell more merchandise, shouldn't he?"

The feed dealer nodded. "Sure, if he has a nice clean, bright store, and if he has enough variety of good merchandise displayed, and if he backs this up with the right price and good salesmanship, plus courtesy."

Mary nodded. "Well, I know how you can increase traffic without spending hardly a cent."

Joe gulped. "What is it? This is almost too good to be true."

Mary looked at him earnestly. "Well, you have a 'For Sale and Exchange' bulletin board in the mill now which many farmers use, and many others come to study the items advertised."

"That's true," Joe said. "It has brought us much business through extra traffic all these years. Some dealers don't keep up a board like this as they should, and so farmers lose confidence in it. But not ours. We check the items regularly, and take off the old ones that have been withdrawn. Farmers know that."

"Fine. Now, isn't it true that during the spring and summer farmers have need of more full time and part time help than at any other time of the year?"

Joe nodded. "Yes, and it's getting tougher every year for farmers to find the help they want. Labor is rather scarce."

Help Wanted Board

"I thought so," declared Mary. "Why couldn't you have a separate 'Help Wanted' bulletin board for farmers and gardeners, where you could post their full time and part time labor requirements?"

Joe was silent for a moment. "But farmers go to the county federal employment office when they want help."

"Sure, but they go there too late, a day or so before they need help," Mary said. "If you established a 'Help Wanted' board in your feed store, and then mentioned the board in your ads every week, and encouraged farmers to look ahead and anticipate their labor needs and list them with you, then you would be giving them a big service."

"Say, that's right, Mary. And farmers would come in to study the board, and so would people who are looking for farm jobs. The local ag class might find it a source of interest, as well as all high school students looking for part time work."

Some Extra Sales

Mary nodded. "And the board would increase your store traffic. You'd make quite a few extra sales, I'm sure. Do you remember how that custom spray operator came to you last summer and what a time he had to get some extra help to assist him in his work?"

"Yes," Joe replied eagerly, "and he said he was coming back this year—he's a teacher over in Brevoort, who has a custom spraying outfit which he operates in summer. Mary, I think you've good a fine workable idea. And I have an idea that the federal employment bureau will appreciate this help, too."

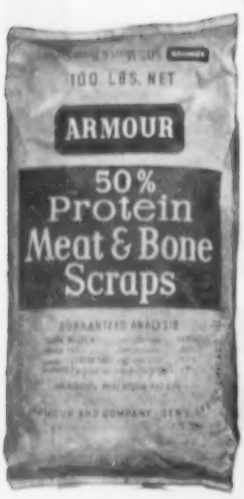
Mary smiled. "One thing more. If a new farmer reads your ads telling about the 'Help Wanted' bulletin board, he might want some extra help, come in and post a notice on the board, get acquainted with you and buy your feed regularly."

"Sure thing," Joe grinned. "I could pick up some valuable accounts that way." Then seeing the look in Mary's eyes, he said, "And of course, I suppose you do expect a new suit out of this deal—"

"Oh," said Mary with glee, "I was only going to ask for a new hat, but to tell the truth both my suits are getting a little out of style, and I could use a new one. Easter's coming."

Joe sighed. "I've got one big fault. I should keep my big mouth shut until other people get through talking. From now on I'm going to practice being silent."

A flock of testimonials for your feed



Fast growth! High egg production! On these all-important factors, poultry raisers judge the merits of your brand of feeds.

You'll be sure of your customers' approval when you fortify your feeds with Armour Meat and Bone Scraps. This fine Armour feed ingredient provides a tested and proved scientific balance of the vital proteins, amino acids and minerals that the modern poultry feed must offer.

To make your customers' poultry a "flock of testimonials" for your brand of feeds, switch to Armour Meat and Bone Scraps. Your feed customers are bound to benefit with faster chick growth, higher egg production. And you'll benefit with a growing demand for your brand of feeds!

NOTE: On the basis of a 2-year test, Professor S. L. Balloun of Iowa State College has observed maximum results have been obtained when 1% tallow was added if the chick diet contained 10% expeller meat scraps. If protein was supplied by solvent soybean meal or solvent meat scraps, 2% or 3% tallow improved the diet more than 1%. Reason: the addition of expeller meat scraps at 10% level also adds nearly 1% fat to the diet.

ARMOUR AND COMPANY

TALLOW AND FEED DIVISION • GENERAL OFFICES • CHICAGO 9, ILLINOIS

IT TAKES "TEAMWORK" TO BE A WINNER!

Why not TEAM-UP WITH the INDUSTRIAL Fumigant Company

HERE'S YOUR CHANCE TO SCORE

BECOME A PART OF THE INDUSTRIAL TEAM . . . LET US TELL YOU ABOUT OUR NEW DEALER PLAN FOR INDUSTRIAL QUALITY GRAIN SANITATION PRODUCTS.

INDUSTRIAL PROVIDES THE BEST USE-TESTED FUMIGANTS, INSECTICIDES AND OTHER PRODUCTS ON THE MARKET TODAY, PLUS THE TECHNICAL ADVICE AND SUPPORT OF OUR EXPERIENCED STAFF.

YOU MAKE THE PRODUCTS AVAILABLE TO YOUR CUSTOMERS WITH THE CONFIDENCE BORN OF CERTAIN KNOWLEDGE THAT THIS TIME, THE JOB WILL BE WELL DONE.

WE BOTH PROFIT IN SATISFIED, ENTHUSIASTIC CUSTOMERS WHO RETURN AGAIN AND AGAIN.

WRITE OR CALL US FOR FULL DETAILS.

the INDUSTRIAL Fumigant Company

923 STATE LINE • PHONE BA. 1-0160 • KANSAS CITY, MISSOURI

NOW AVAILABLE

10% Feed Grade

Folic Acid

Samples and complete information on request

Upjohn

THE UPJOHN COMPANY, Chemical Sales Division, Kalamazoo, Michigan

Missouri Bulletin Tells How Improved Practices Can Mean More Net Income

COLUMBIA, MO.—Missouri's top egg producers are making an annual labor income of $2.50 to $3 per hen while the state's average producers, using average practices, are realizing only $1 per bird.

This was reported by the University of Missouri recently in a bulletin, "How To Increase Your Farm Profits," a thorough study of the relationship between feeding and farming practices and farm income.

The pamphlet covers poultry feeding, broiler production, turkey feeding and the feeding of swine, beef and dairy animals, as well as other phases of farming.

The bulletin indicates that through careful and efficient management the Missouri farmer and farmers everywhere using the advice found in the bulletin can increase income for each hen by as much as $2, can get 6¢ more for a broiler, 50¢ more for each turkey, can make more money with less livestock in the feedlot and can get as much as $185 more for each dairy cow.

Material in the bulletin can provide feed men with suggestions to help their feeders and to show them how improved practices pay off.

The average Missouri egg producer, the pamphlet shows, gets about 180 eggs per hen, uses about 6 lb. of feed per dozen eggs, has a mortality rate of 22%, sells very few grade A eggs and has a return of about $1 a hen over out-of-pocket costs.

The skilled poultryman, on the other hand, gets 220 eggs per hen with 5 lb. feed per dozen eggs, has a mortality rate of 12% or less, sells 80% of his eggs as grade A and gets $2.50 to $3 a hen over out-of-pocket costs.

How He Does It

This, according to the university, is how the skilled poultryman does it:

1. Grows pullets for the laying house from tested strains, strain crosses, cross breeds and hybrids. They will lay 30-40 more eggs per year than the average hen and will return the producer about $1 more per bird.

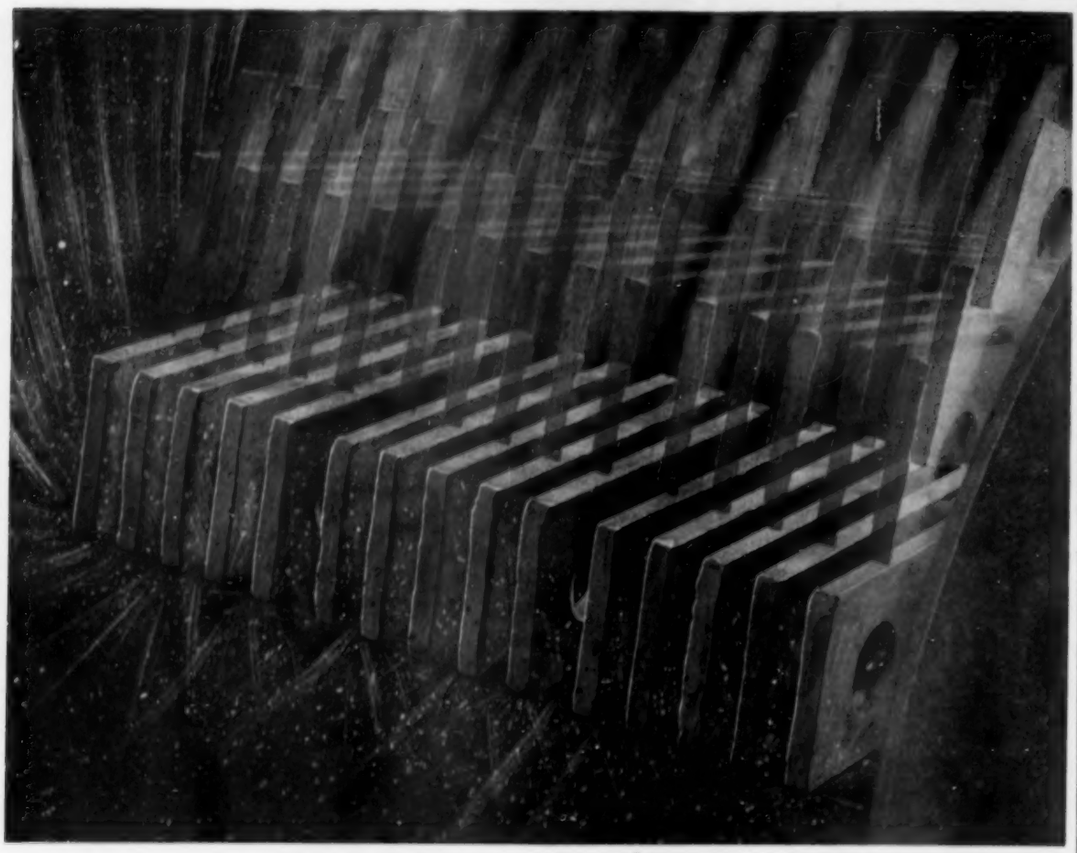
2. Keeps flocks of the current year's pullets, and keeps the best 50 to 60% of yearling hens an additional 2-4 months in separate quarters to get the highest returns. These flocks have returned $2.63 above feed costs compared with $2.15 for an all-pullet flock and $1.52 for mixed flocks of pullets and yearling hens kept the entire year.

3. Puts replacement chicks into the brooder house in February or early March to allow the pullets to reach a high level of production in the season of high prices. Two eggs in the fall are worth as much as three in the spring.

4. Increases labor efficiency by the use of feed rooms in the laying house along with automatic water systems, larger houses, dropping pits, built up litter and a house arrangement that reduces the labor necessary to care for the flock.

5. Gains low mortality rates by using U.S. pullorum-typhoid clean chicks, and by vaccinating for Newcastle, bronchitis and fowl pox, and by debeaking.

6. Uses efficient rations. Feed efficiency is related to the rate of production. The most efficient ration is a well balanced one with proper supplements. Reducing waste resulting from over-filling and from rats



PACAL

hard-faced

HAMMER CLUSTERS*

cut grain, smash costs

Every hammer in a Pacal cluster cuts grain cleanly with the force of the entire cluster. Pacal's efficient, hard-faced tips are sharpened with every revolution. Improve your grind with a set of custom cutting Pacal clusters.

Because of high efficiency, Pacal hammers last up to 10 times longer and reduce screen breakage by 50%. Clusters are easy to handle, quick to change.

There's a Pacal Hammer to grind your product best in any hammermill. Call or write Hammer Department.

* U.S. Pat. No. 2607538

P&C

PAPER-CALMENSON & COMPANY

COUNTY ROAD B AND WALNUT STREET • ST. PAUL 8, MINNESOTA

TELEPHONE: MIDWAY 6-9456

FLAMBO FEEDS

MIXED FEEDS • PELLETS

CUBES • ROLLED OATS

CRIMPED OATS

ROLLED or CRIMPED BARLEY

FEEDING OATMEAL

OAT GROATS

PULVERIZED OATS

FOR SAMPLES OR QUOTATIONS—

Write, Wire

TELEPHONE 2125

TELETYPE PHILLIPS 8821

FLAMBEAU MILLING CO.

Phillips, Wisconsin

GROWING MARKETS SEEN—Hobart R. Halloran, feed specialist of Petaluma, Cal., left above, is shown addressing the convention of the Pacific Coast Renderers Assn. in San Francisco recently. He said meat meal is a good source for some of the amino acids which are critical dietary requirements for poultry. The use of meat meal is increasing, he said. Pictured at right are the new officers of the organization for the coming year. Left to right are Nels Hamburg, Peterson Tallow Co., Emeryville, Cal., secretary; Roy Mason, Consolidated Chemicals, San Francisco, president; Ken Reinhart, Kings-Tulare Tallow Works, Hanford, Cal., executive vice president.

and mice is another saver. A saving of a pound of feed per dozen eggs is easy to attain.

7. Produces high quality, clean, sound-shell eggs. It is accomplished by frequent gathering and other good management practices. Dirty and broken eggs reduce returns to the producer by an average of 36¢ per hen per year.

8. Markets on the grade or directly to consumers to increase returns 5¢ or more a dozen or 80¢ to $1 a hen each year.

9. Uses artificial lights as needed to provide additional stimulus of production. Shifting heavy production to high price months in the fall increases income by 30¢ per bird.

10. Keeps capital investments as low as possible, but still seeks a good labor efficiency and low depreciation rate. He also investigates the possibilities of multi-brooding replacement and confinement rearing. Reducing housing investments $1 a bird cuts annual costs by 10¢ a hen.

Broiler Savings

The average Missouri broiler producer, who is now getting about 9¢ a bird on a 23¢ market, can make another 6¢ after paying all costs of chicks, feed, fuel, vaccination, interest and depreciation by making some rather easy adjustments for efficiency.

He can get the efficiency in the following ways:

1. Use a broiler strain or cross that has a white or Columbian color pattern. Crosses with some Cornish pattern on the male side usually grow faster, eat less per pound of gain and grade higher in the carcass.

2. Keep mortality under 5%.

3. Get a feed efficiency of about 2.75 lb. feed per pound of gain. Market at about 3 lb. and about nine weeks of age.

4. Improve efficiency by using automatic feeders and built up litter.

5. Allow .8 to 1 ft. of floor space per bird.

6. Produce three or four broods a year.

7. Keep complete cost records for each brood including the cost of daily feed consumption.

8. Keep house dry and provide sufficient ventilation without draft.

9. Keep birds confined without roosts during the entire brooding period.

Turkey Pointers

Because turkey growing is highly competitive, it is imperative that the producer be efficient. By using just a few measures designed to increase his efficiency he can increase his income from the average of $1 a bird to $1.50.

The Missouri study advises him to raise rapid growing strains of broad breasted varieties, to fit the size of the operation to the facilities he has, to keep mortality rates low, to strive for a pound of gain for 4 lb. feed, to start the main brood in April or May, to plan marketing well in advance of actual disposal, to keep accurate records, to provide a square foot of brooder space per bird, and to kill and protect against animals or predators that would panic the flocks.

Livestock

The Missouri study reported that the state has about 2.7 million head of beef cattle and nearly a million head of sheep. It also raises about 6.5 million head of hogs. Cash receipts from the sale of the animals hit more than $1 billion.

But the report states that greater

(Continued on page 28)

FOR
WELL-BALANCED
NUTRITIVE FEEDS
WITH
GRAIN FERMENTATION PRODUCTS

PRODULAC
CORN DISTILLERS SOLUBLES WITH DRIED GRAINS

NADRISOL
CORN DISTILLERS DRIED SOLUBLES

The feeds that promote quicker growth and greater meat and egg yield are the feeds your dealers and their customers want to buy:

Produlac or Nadrisol—grain fermentation products—are standardized, both products having the same riboflavin content and choline content.

With either Produlac or Nadrisol you can mix highly nutritive formula feeds. These economy fortifiers are rich in proteins—vegetable fats—and essential Vitamin B-G Complex factors, as well as unidentified growth factors.

Mix either Produlac or Nadrisol in your formula feeds. It's a good way to gain and hold customer acceptance.

Sold only to manufacturers of formula feeds.

NATIONAL DISTILLERS
PRODUCTS CORPORATION
GRAIN PRODUCTS DIVISION
99 PARK AVENUE, NEW YORK 16, N. Y.

ADVERTISING CAPS for . . .
the Most In Publicity and Good Will
Write Us for Samples and Prices
MINNESOTA SPECIALTY CO., INC.
121 N. 4th St., Minneapolis 1, Minn.

to Sell The Kansas farmer

Buy the Kansas Farmer

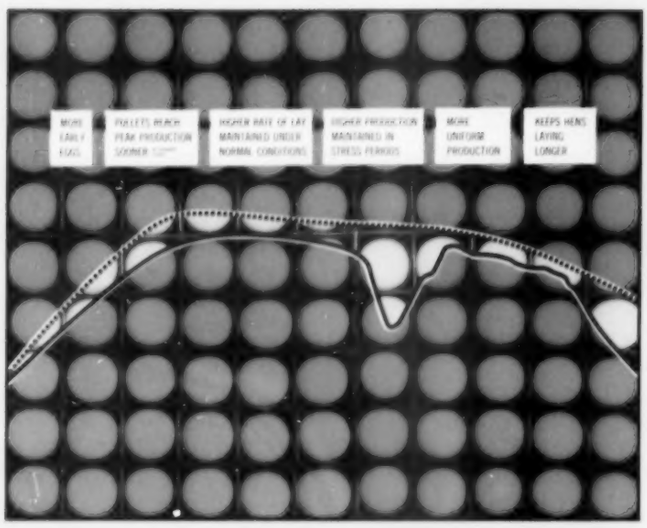
PUBLISHED BY CAPPER PUBLICATIONS—
LARGEST AGRICULTURAL PRESS IN THE WORLD

Sales Offices: New York, Cleveland, Chicago, Topeka, Los Angeles and San Francisco

Here are seven important

EXTRA-PRODUCT

containing Terra



1. YEAR-ROUND SALES

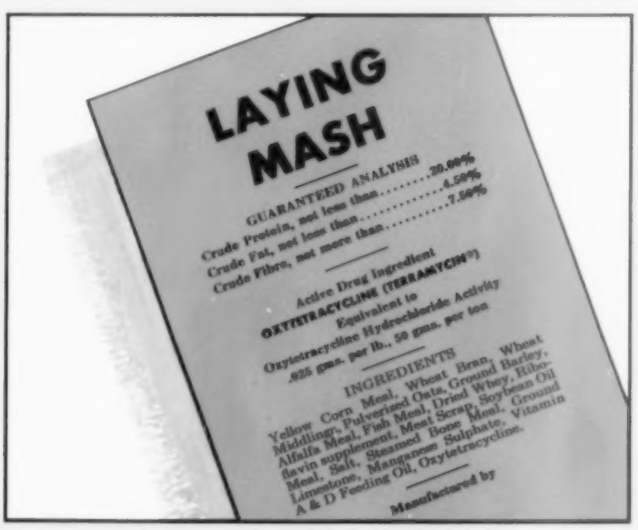
Extra-Production Laying Feeds containing Terramycin are formulated for year-round sales and profits. You sell Extra-Production Laying Feed at the beginning of the laying cycle to bring pullets to peak production sooner; throughout the laying cycle to maintain higher rate of lay; at the end of the laying cycle to extend period of high egg production; whenever laying slumps or disease threaten.

2. BETTER CUSTOMER SERVICE

When your Extra-Production Laying Feed contains Terramycin your customers get: up to 53 more eggs per hen per year; an average of 24 more eggs from each 100 lbs. of feed; increased profits over feed costs of up to $1.00 or more per hen per year; lower production costs through closer culling—more eggs from smaller flocks. This extra service means a grateful, steady customer.

5. "TRADE-UP" CUSTOMERS

Pfizer's carefully planned educational campaign makes it easier to persuade more flockowners to switch to your new high production feeding program. Your own selling effort, tied in with Pfizer's promotional program, helps you "trade-up" customers to new extra profit, Extra-Production Laying Feeds. Terramycin's approved extra benefits give you a new sales tool based on the latest scientific advance.


LAYING MASH
GUARANTEED ANALYSIS
Crude Protein, not less than 20.00%
Crude Fat, not less than 4.50%
Crude Fibre, not more than 7.50%
Active Drug Ingredient
OXYTETRACYCLINE (TERRAMYCIN®)
Equivalent to
Oxytetracycline Hydrochloride Activity
.825 gms. per lb., 50 gms. per ton
INGREDIENTS
Yellow Corn Meal, Wheat Bran, Wheat Middlings, Pulverized Oats, Ground Barley, Alfalfa Meal, Fish Meal, Dried Whey, Riboflavin supplement, Meat Scrap, Soybean Oil Meal, Salt, Steamed Bone Meal, Ground Limestone, Manganese Sulphate, Vitamin A & D Feeding Oil, Oxytetracycline.
Manufactured by

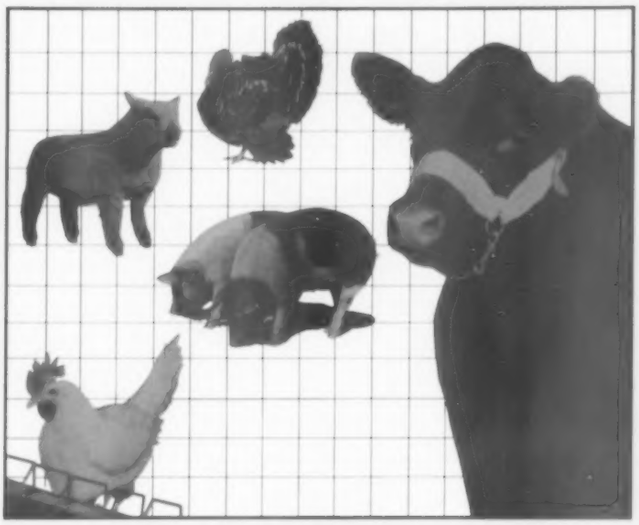
6. MAINTAIN PROFIT MARGINS

Premium feeds such as Extra-Production Laying Feeds containing Terramycin are less subject to the ups and downs of the feed-ingredient market. Your Extra-Production Laying Feed containing Terramycin can be priced to return a better profit to you commensurate with the extra return to the feeder. Steady sales at a steady price mean steady profit possibilities throughout the year.

t ways you benefit with an

ION LAYING FEED

rmycin® in your line



3. INCREASED BRAND PREFERENCE

Promote Extra-Production Laying Feed as a new feed with important claims only Extra-Production Laying Feeds containing Terramycin can make. Satisfaction with "your brand" Extra-Production Laying Feed means your brand preference for all feed needs on customers' farms. This new feed can be a line leader that'll help you make more sales and profits on all your feeds.

4. NATIONAL EDUCATIONAL PROGRAM

A comprehensive educational program is under way to create consumer awareness and acceptance of these new speciality feeds. Informative ads in national farm magazines, specialty poultry journals and on radio are part of this educational build-up to presell these profit-producing feeds. Special labeling identifying your feed as an "Extra-Production Laying Feed" help you tie in with this national promotion.

7. GROWING MARKET

An Extra-Production Laying Feed containing Terramycin offers you a greater potential market than most other specialty feeds. Each one of the more than 3,500,000 laying flock owners is a potential customer. Most will want to take advantage of the new benefits of Terramycin they have been reading about—and will be hearing a great deal more about in the months ahead.

For further information on the use of Terramycin to increase egg production, or on Pfizer's market development program to help the feed industry make the most of this big, new opportunity, write, wire, or call your Pfizer representative. He'll be glad to give you all the information and data you need to get started immediately.

Terramycin®

Brand of Oxytetracycline

NEW WAY TO GET MORE EGGS

Pfizer

Chas. Pfizer & Co., Inc.
World's largest producer of antibiotics
630 Flushing Ave., Brooklyn 6, N.Y.
6460 W. Cortland St., Chicago 35, Ill.
7600 Ambassador Row, Dallas 7, Texas
1500 16th St., San Francisco 3, Calif.
1151 Chattahoochee Ave., N.W., Atlanta 2, Ga.

returns could be gained on smaller numbers. A total of 2.2 million cattle, ¾ million sheep and 5 million hogs could bring more money if the advanced methods used by the most skilled producers were used.

Here's how to save 20% on livestock production costs, the bulletin says.

Cull low producing livestock from breeding herds, select replacements from high producing strains as indicated by records, breed quality into herds with improved sires, cooperate in programs to improve animal health and control disease, study and develop methods of production best suited to the farm, buy labor saving equipment wisely, keep abreast of market demand and prices, use roughage and pasture effectively.

To make the most money on swine, produce large litters of meat-type hogs that gain fast from birth to marketing, sell on the graded basis when prices are normally the highest, use highly productive strains of sows and boars of meat type. The meat type hog sells for 25¢ to 75¢ more per cwt. and takes 5 to 8% less feed than the lard types. The bulletin also advises to breed sows twice when they are in heat, for this usually increases the size of the litter by one pig.

Also advised are the use of farrowing crates, careful scrubbing of the crates with lye water before putting the sows into them, use of heat lamps, putting pigs on clean pasture and including antibiotics in the ration until the pigs reach a weight of 100 lb.

Savings on cattle come from the very start—when the feeder buys the animals. The purchase price is usually the largest cost. Thus it pays to buy wisely. Other advice is to buy a kind of cattle that fits the feed supply, sell at times when the price for the grade is usually highest, finish only to the grade that will bring the highest net return, feed corn silage, protein concentrate and minerals which will produce winter gains at less cost than any other ration.

Choice grade fat yearlings, weighing 900 to 1,000 lb. when finished, can be produced at lowest cost if fed to gain 1¼ to 1½ lb. in winter on high quality roughage and supplement, grazed until July 1 and then full fed on pasture. Sixty to 65% of the total gain can be made from roughage and pasture by this system.

Dairy Animals

Dairymen have plenty of room for improvement, the bulletin finds. In 1954, Missouri dairymen sold 4,434 million lb. milk from 992,000 cows. The average cow produced 4,580 lb. milk that sold for $3.32 cwt., or a total of $152. Her estimated feed cost was $2.58 cwt. or a total of $118. This left a return of 74¢ per cwt. of milk over feed costs or $34 a cow.

In contrast, the state's Dairy Herd Improvement Assn. herds showed an average cow with production of 8,685 lb. milk that sold for $4.49 cwt. or a total of $390. Her feed costs were $1.97 per cwt. of milk or a total of $171. Left was a return over feed costs of $2.52 cwt. or a total of $219 for each animal. That is $185 more per cow than the state average.

The reason for the better income in the DHIA cows is again efficiency, the bulletin states. Better efficiency can be gained for the dairy farmer by planned roughage production and feeding, use of concentrates, careful breeding, careful records, labor saving devices, disease controls and the marketing of quality products.

SOYBEAN OIL MEAL

44% Hexane Extracted

optimum nutritional quality

WE DO NOT MANUFACTURE FORMULA FEEDS

your inquiries will receive our prompt attention . . .

Phone 7911 TWX 541

Honeymead PRODUCTS COMPANY

Mankato, Minnesota

To Your Feed Formulas Add

WESTERN LIVE YEAST CULTURE-2X

Live Yeast — Vitamins — Enzymes

For faster gains by more efficient utilization due to known and unknown factors of yeast

WESTERN YEAST COMPANY Chillicothe, Illinois

McCabe Grain Company Limited

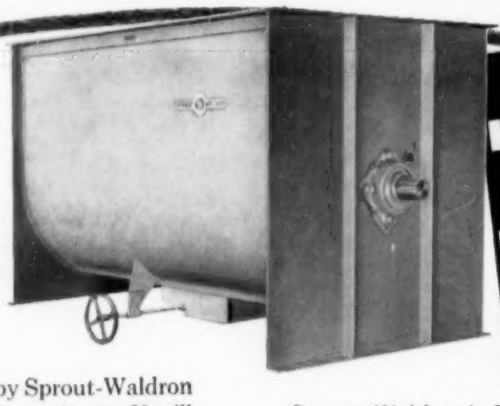
WINNIPEG-VANCOUVER

LONDON, ENGLAND

Schwartz & Co.,(Grain) Ltd.
Victoria Products and Grain
(overseas agents) Ltd.

MONEY-SAVERS

in every size . . .
every price class



SPROUT-WALDRON HORIZONTAL MIXERS with the Big Plus

Horizontal batch mixers designed by Sprout-Waldron provide the ultimate in mixing thoroughness. You'll find the exact horizontal to best meet your needs in the Sprout-Waldron line. There is a wide range of bearing types and designs and a variety of agitators with varying degrees of ruggedness. And discharge gates with the latest quick-opening devices as well as hand slides are available. There is a size and style to fit every budget, to meet every end use . . . each providing maximum value per dollar of first cost.

Sprout-Waldron's BIG PLUS in engineering guidance will give you the greatest possible savings in floor space and labor. It provides ways and means to get maximum benefits from push-button batching systems, the usage of surge bins and dump hoppers, and the most efficient combinations with scalpers, magnetic separators, and other auxiliary equipment. *Write for details on the type of horizontal that meets your needs.*

SPROUT-WALDRON

The Best in Milling Equipment Since 1866

61 LOGAN STREET • MUNCY, PA.

Exclusive Canadian Distributors: Strong-Scott, Limited, Winnipeg

PELLET MILLS • HAMMER, ROLLER, ATTRITION, AND BURR STONE MILLS • MIXERS • SCREW, BELT, AND PNEUMATIC CONVEYORS • BUCKET ELEVATORS • CUTTERS, CRUSHERS AND FEEDERS • REELS, SEPARATORS, AND ASPIRATORS BULK FEED TRUCKS • A. O. SMITH PERMAGLAS STORAGE UNITS • BUHLER BROS. FLOUR MILLING EQUIPMENT

FE/467

Your formulations gain extra effectiveness from Du Pont Supplements

Increased profit for poultry or livestock raisers is the powerful sales factor these products can add to your formulations, by safeguarding animal health and helping feeds deliver full potential. For complete details on their value in your products, write to the nearest Grasselli sales office.

PHENOTHIAZINE

Phenothiazine *for cattle* is paying off! It's a new and profitable practice . . . developed by research to control the worms that limit gains of beef animals and young dairy stock. Pheno controls more worm parasites than any known drug. Products containing Phenothiazine fit any feeding program.

METHIONINE

Today's most profitable rations for fast-growing poultry contain added Methionine. Adding this essential amino acid helps assure a correct balance between protein and energy. The result: more rapid and more economical gains—better feathering and better finish for chickens and turkeys.

SODIUM PROPIONATE

Sodium Propionate is effective for prevention and control of ketosis (acetonemia) in dairy cows. This product, produced as a compound of drug quality by Du Pont, permits feed manufacturers to offer a valuable new service to the nation's dairymen.

DELSTEROL®

"Delsterol" is the exceptionally stable source of vitamin D_3 made by Du Pont. In the 17 years since its introduction, every pound of "Delsterol" assayed by regulatory officials has been reported guarantee sustained.

E. I. du Pont de Nemours & Co. (Inc.), Grasselli Chemicals Department
Animal Industry & Nutrition Section, Wilmington, Delaware

DISTRICT OFFICES:

Atlanta 8, Ga. . . . . 739 W. Peachtree St.
Cleveland 14, O., 1321 Nat'l City Bank Bldg.
Houston 25, Tex., 1100 E. Holcombe Blvd.
Minneapolis 2, Minn., 1207 Foshay Tower
Philadelphia 3, Pa., 1617 Pennsylvania Blvd.
San Francisco 4, Calif. . . . 111 Sutter St.

Du Pont Company of Canada Limited
85 Eglinton Avenue East, Toronto 12, Ontario

DU PONT
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

RETAIL FEED PLANT—The retail feed plant of the Whittemore (Iowa) Hatchery, measuring 40 by 60 ft., is shown at the left. The building, completely equipped, cost the owner, Elmer Maahs, $15,000. The plant provides a complete grinding and mixing service, modernized bulk and bagged feed handling facilities, warehouse and grain storage. In the picture is the firm's bulk-bag truck (left) and the truck-mounted mixer. In the center photo is shown part of the bagged feed warehouse area which provides room for storing more than four carloads of feed. Bags are handled on pallets with the power truck being operated by Mr. Maahs, who is being watched by Pete Visser, Allied Mills, Inc. The right photo shows a close-up of one of the 3-ton capacity bulk bins which are built so that they can be expanded to five tons if needed. Each bin has its individual spout from the elevator to minimize feed contamination. Material is removed from the bins by individually-powered auger conveyors, one for each bin.

Modernization Report of a Retail Feed Plant

$15,000 Buys New Building, Equipment, Iowa Dealer Says

By Emmet J. Hoffman
Feedstuffs Editorial Staff

Fast-moving developments in the feed industry are affecting the feed dealer as much as they are the manufacturer and other segments of the trade. Many feed retailing methods and facilities which served their purposes adequately a few years ago are unprofitable and out-dated today.

A number of leading feed industry figures have said that the merchandising phase of the feed business has not kept pace with feed nutrition developments. It is certain that many feed dealers: Have not given much attention to, and corrected conditions which result in inefficient warehousing and feed handling, whether it is sacked or bulk feeds; fail to cut operation costs where possible; neglect the demand of customers for grinding and mixing facilities; are unaware of the rewards of a well-rounded service program; maintain a careless approach to the credit and financial end of the business.

On the other hand, feed dealers who have taken steps to keep pace with developments are assuring themselves of a steady and increasing business in the years to come.

One of these progressive, forward-looking individuals is Elmer Maahs, owner of the Whittemore (Iowa) Hatchery and a Wayne feed dealer. A few years ago, he made an objective study of his business and decided that it was necessary that he modernize, consolidate his warehousing and other facilities, install a grinder, plan for handling bulk feed as well as bag feed customers quickly and smoothly, and intensify his service program. Mr. Maahs felt this program was absolutely necessary for him to keep in step with the progress of the feed business.

Mr. Maahs realized that a number of factors were preventing his firm from making the progress that his market potential would allow. The bagged feed had to be stored in three different sheds, none adequate nor efficient for loading and unloading feeds. These jobs were also time-consuming for his employees. Customers with grinding jobs had to be turned away because he did not provide this service. Bulk feed customers were served inefficiently by bulk bins which were stored outside, an inconvenient method especially during inclement weather. He lacked sufficient warehouse space. He needed a grain storage bin, especially for corn.

Plans to remedy these conditions began to form a few years ago and today they have materialized for Mr. Maahs. He has completed a retail feed plant 40 by 60 ft. in size and equipped it at a cost quite moderate considering he now has completely modern retail facilities which can take care of every feed need of his entire trade area.

The new building's storage capa-

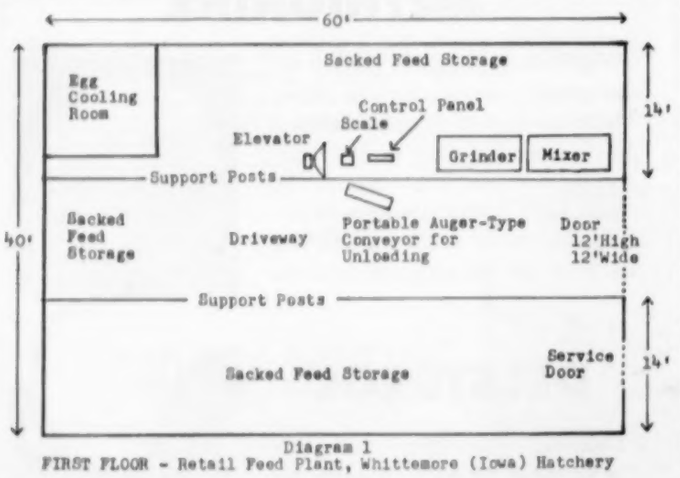


Diagram 1
FIRST FLOOR - Retail Feed Plant, Whittemore (Iowa) Hatchery

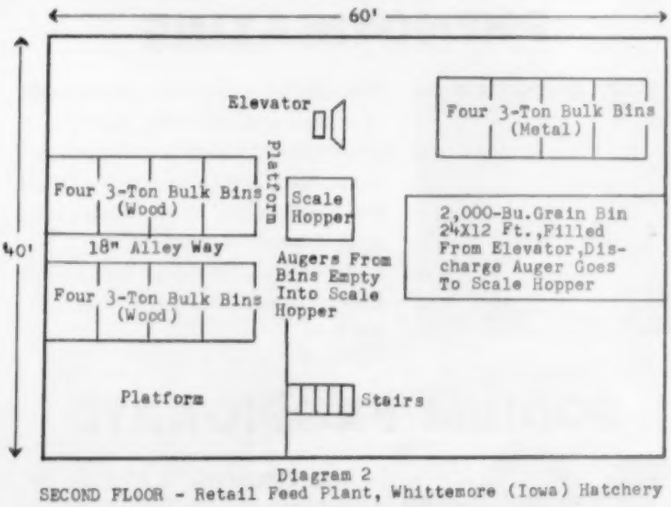


Diagram 2
SECOND FLOOR - Retail Feed Plant, Whittemore (Iowa) Hatchery

OUR "FORMULA"... for serving the formula feed mixers

1. A QUALITY PRODUCT— FROM THE CREAM OF THE SOYBEAN CROP
2. SERVICE— FROM OUR MILL TO YOURS . . . . AS SCHEDULED!

Here's a formula that works . . . . FOR YOU!

KANSAS Soya PRODUCTS CO., INC.
PHONE 3000 EMPORIA, KANSAS

D.F.E. DIRECT FROM EMPORIA

city is as follows: Bulk bin storage for 36 tons of feed and provision for expanding eight wooden bins by an additional 16 tons; more than four carloads of sacked feed; 2,000 bu. of grain; additional space for concentrates and equipment.

Entire Cost $15,000

Mr. Maahs spent $15,000 for his facilities and this figure includes the entire cost of constructing the building, erecting the bins, installing the wiring, purchasing and installing the elevator, augers, mixer, grinder (a reconditioned unit), scale and scale hopper. He feels that this a comparatively low investment for the convenient facilities he now has and the many interested persons from the feed and allied industries who have inspected the plant agree with him.

A sales executive from one large feed manufacturing company who has toured the facilities says they "surpass many of the units put up by feed manufacturers." He predicts that dealers who are progressive and forward-looking like Mr. Maahs will survive throughout the coming years in the feed business and progress right along with our expanding and modernizing economy.

Born of Necessity

Mr. Maahs says his new plant was born of necessity and he gives these reasons:

1. Previously he had three feed sheds for storing sacked feeds, none of which were adequate for convenient and quick loading and unloading purposes. The new plant replaces these three sheds and has space for more than four carloads of sacked feeds which are unloaded on pallets and also loaded on the customer's truck by pallet. All of this is done inside the building.
2. Previously several metal bulk bins were outside, exposed to the weather, and this was not satisfactory. The new building houses all bulk bins.
3. Warehouse space available is sufficient not only for sacked feeds but also for displaying feeders, waterers and other equipment.
4. The plant driveway provides overnight storage for the 7½-ton capacity, combination bulk-sack truck.
5. Feed customers are handled quicker because of the greatly increased convenience.
6. Grinding and mixing facilities will be available, a service for which there has been an increasing demand. Sales of concentrates are expected to increase with this service.
7. The 2,000-bu. capacity grain storage bin will enable the plant to have a sufficient corn supply on hand for grinding and mixing and at a price comparable with that received by the farmer in the market place.
8. There is no danger of feed contamination since all bulk bins have individual augers to the scale hopper from where the feed goes directly into the delivery truck.

The retail feed plant was the result of joint planning, studying and designing of Mr. Maahs, a Whittemore building contractor—Wilbur Roeber of the Roeber Construction Co.; T. J. Rhodes, Fairbanks, Morse & Co., and Pete Visser, territory representative of Allied Mills, Inc.

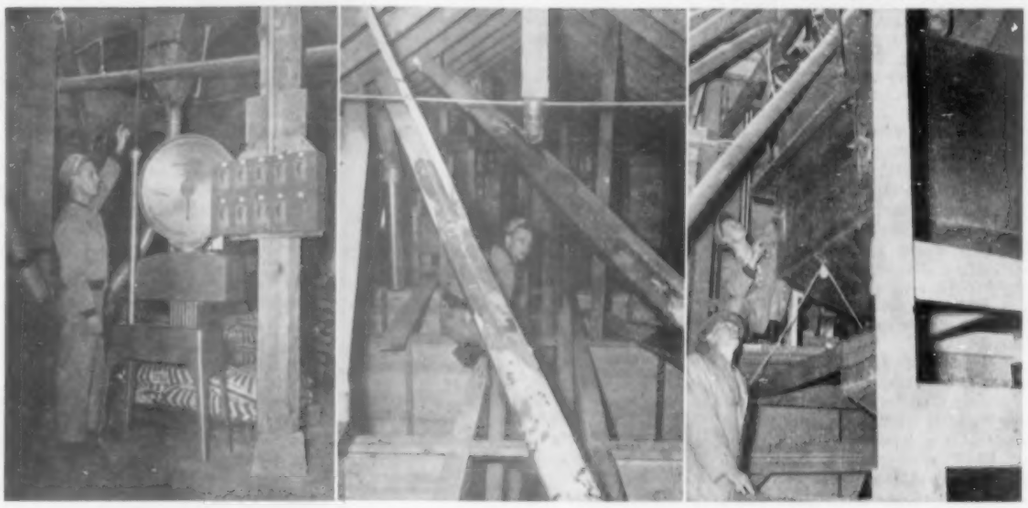
"I visited many retail set-ups, did a lot of trade paper reading and visited with a lot of equipment people to get ideas for my facilities. I'm satisfied that I have facilities to handle both bulk and sacked feed customers quickly and satisfactorily," Mr. Maahs states.

Construction of the building began in July, 1956, and limited operations began in November, 1956. All facilities, including grinding and mixing, will be in full operation by April. By that time Mr. Maahs expects to assign nearly the entire time of two men to the feed phase of the business. Now, however, sales, loading and unloading are handled by utilizing 90% of the time of one employee.

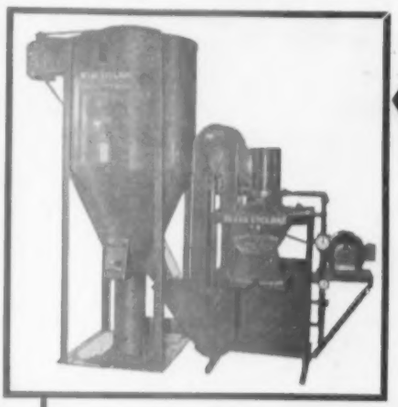
Until the stationary mixer is installed Mr. Maahs will use a portable mixer mounted on a truck inside the plant. This unit is also available without charge by a farmer who buys his concentrates from Mr. Maahs, grinds his own feed and requires the services of a mixer. The farmer has to pick up the mixer and return it to the plant, however.

Plant Layout

The building (see accompanying diagrams) is of wood construction, 40 ft. by 60 ft. in size. There is no basement. The first floor is of concrete. The second level does not have a full



RETAIL OPERATION — Heart of the semi-automatic retail feed plant of the Whittemore (Iowa) Hatchery is the control panel and weighing operation shown in the picture at the left. Elmer Maahs, owner of the firm, is pointing to the flexible spout which empties from the overhead scale hopper into a delivery truck or a bucket elevator (extreme left) for delivery into another bin. Each batch can be weighed within a fraction of a pound. The controls operate individually-powered augers in the overhead bins. Mr. Maahs is shown in the center picture perched atop one of the eight wooden 3-ton capacity bulk bins. Spouts and augers are used for filling and emptying the individual bins. On the right, Mr. Maahs and Pete Visser, Allied Mills, Inc. (with topcoat), are inspecting the scale hopper located on the second floor of the plant.



BIGGER SWEET FEED PROFITS

TEXAS CYCLONE

feed mixing units were made to work as a team—or to fit in with existing facilities. Shown here is the TEXAS CYCLONE FEED MIXER in combination with the TEXAS CYCLONE SWEET FEED MIXER—the finest mixing combination you can find. Molasses mixing is made easier and better with a patented spray process that insures blending. Write for free description folder.

SIMPLE TO OPERATE
EASY TO MAINTAIN

That's what users say about Texas Cyclone. Simple in design. Few moving parts. Low upkeep. Hundreds in use for many years.

NORWOOD MANUFACTURING COMPANY
MINERAL WELLS, TEXAS

Marion MIXERS
ELIMINATE GUESSWORK IN MOLASSES MIXING!

Complete accuracy in Molasses mixing bag after bag!
One mixer For All Your Mixing Needs.
Mixes Both Dry and Molasses Feed.
SEND FOR FREE LITERATURE:
RAPIDS MACHINERY CO.
667 11th Street Marion, Iowa

PICTURE OF THE YEAR

Bagorama by P. Kent

Ask Us
PERCY KENT BAG COMPANY, INC. HUmboldt 3-9800 Kansas City · Buffalo · New York

floor area. It houses twelve 3-ton bulk bins, one 2,000-bu. grain bin and a 2-ton scale hopper. The second level is about 14 ft. above the first floor.

A truck door 12 ft. by 12 ft. and a service door are located in front of the building. A small cupola on the top of the building permits head room for the bucket-type elevator which is about 24 ft. high. The elevator has a hopper and requires no pit.

Supporting posts and beams for the second level are 14 ft. in from the long walls and vehicles can utilize the entire 60 ft. long driveway which is 12 ft. wide. As mentioned previously, first floor clearance under the bins is about 14 ft.

An area 14 ft. wide and 60 ft. long along the south wall on the first floor is entirely free for storage of sacked feeds. Also available for warehousing purposes is a considerable portion of the 12-ft. wide driveway. Another sacked feed storage area is located along the north wall. An egg cooling room 12 ft. by 12 ft. is located in the northwest corner of the building.

The egg cooling room, insulated and equipped to maintain a year-around temperature of 55°, is used to take care of the firm's own flock of 1,100 layers which are kept in confinement adjacent to the company's building. The flock is used mainly for demonstration purposes.

Equipment

Mr. Maahs owns the following pieces of equipment: One 2-ton bulk and sack combination truck with an auger conveyor, capacity 7½ tons of feed; two ¾-ton pickup trucks for hauling sacked feed, buying and hauling poultry and service use; one portable truck-mounted mixer; 1-ton stationary mixer, made by the Brower Manufacturing Co.; 1-ton scale, soon to be replaced by a 2-ton scale; a portable auger-type conveyor for unloading materials from trucks into the elevator hopper for elevating to the bins.

The augers were furnished by the Sudenga Iron Works, George, Iowa, and the bucket elevator is a product of the Universal Hoist Co., Cedar Falls, Iowa. In April, delivery of a rebuilt hammermill, powered by a 50 hp motor, will be made. The hammermill is a product of J. B. Sedberry, Inc., Franklin, Tenn. It will grind into the 1-ton mixer which also will be installed permanently soon.

The equipment requires a total of 84 horsepower and this figure includes the 50 hp motor which will be used on the grinder after its installation. Each auger is powered by an individual ¾ hp. motor.

Mr. Maahs expects to use the 2,000-bu. grain bin on the second floor mainly for corn to be used in the following manner. The corn is unloaded from the truck into the elevator which carries it by spout into the bin. An auger will be able to take it from the bin to the scale hopper for weighing. From the scale hopper it will then go to the grinding bin, thence to the hammermill and then to the mixer.

"The hatchery-feed store combination is an ideal one for us," Mr. Maahs says. "We have 440 chick customers who bought 265,000 chicks during 1956. Most of these chick buyers are also feed customers. About 75% of our feed business is with farmers who have laying flocks. The average size laying flock of our customers is about 600 hens."

About 15% of the feed business is with hog farmers and 10% is with dairy and beef farmers. Mr. Maahs has high hopes of building up his hog business during the coming year. More hogs will be raised in his area, he says, and more sales emphasis will be placed on hog feed prospects and customers. No turkey feed is handled as there is little demand for it. Farms range in size from 160 to 200 acres in the Whittemore area and those that have bulk bin facilities usually require that the farmer take out the feed manually. In time, through a process of education, more farmers will resort to mechanical means of feed handling on the farm, Mr. Maahs believes.

Mr. Maahs now has 60 farmers who ask for feeds in bulk. The total bulk business for the past several months has been equal in volume to sacked feed, he says. Most of the bulk feed customers buy in quantities of one ton or less and get a price discount equivalent to $5 per ton. Very few customers buy more than one ton, a factor of real importance to Mr. Maahs as his supplier, Allied Mills, Inc., of Mason City, Iowa, supplies bulk feeds only in quantities of three tons or more. Few farmers in the area are able to store this large a quantity or use it in a relatively short time, Mr. Maahs says.

A salesman from the Whittemore Hatchery is accompanied by M. C. Swim, Allied representative, one day a week in doing resale work in the trade area. One employee devotes full time to poultry work, service and advising farmers on feeding problems.

Sacked feed is delivered one day a week. Delivery is free on 500 lb. or more of sacked feed and on one ton or more of bulk feed.

Three-Fold Rise in Business

The firm's business has grown three-fold from five years ago. In 1956 the gross revenue was $240,000

J. Richard Soars

JOINS DIETRICH & GAMBRILL—J. Richard Soars has been named to the staff of the Lewisburg, Pa., division of Dietrich & Gambrill Inc., Lewisburg. He is a graduate of the Mercersburg Academy and Cornell University. Before joining Dietrich & Gambrill, Mr. Soars had experience with Sprout, Waldron & Co., Inc.

Tenox BHT

AGRICULTURAL GRADE

Eastman's new Tenox BHT-Agricultural Grade has been especially developed to meet the needs of feed manufacturers. This new form of Tenox BHT is supplied as a free-flowing, non-dusting powder, in a particle size comparable to that of other feed components. It blends rapidly and homogeneously in mixing operations, and does not separate during handling or storage.

Although Eastman has had many years of experience in food antioxidants, we did not rely on this alone in developing Tenox BHT-Agricultural Grade. We talked to feed manufacturers, asking them about their storage problems... their blending machinery and methods... their preference in particle size. Only then did we complete the development work on Tenox BHT-Agricultural Grade, giving it the free-flowing, non-dusting, non-caking characteristics manufacturers wanted.

When you add Tenox BHT-Agricultural Grade to your feeds, you protect their sensitive vitamin content. At the same time, you help poultrymen improve pigmentation and guard their flocks against deficiency diseases such as encephalomalacia.

Since this form of Tenox BHT *is* new, be sure you specify "Agricultural Grade" when ordering. For additional information concerning Tenox BHT-Agricultural Grade, and how you can use it in the feeds you make, write to EASTMAN CHEMICAL PRODUCTS, INC., subsidiary of Eastman Kodak Company, KINGSPORT, TENNESSEE.

SALES OFFICES: Eastman Chemical Products, Inc., Kingsport, Tennessee; New York City, 260 Madison Avenue; Framingham, Massachusetts, 65 Concord Street; Cincinnati, 1813 Carew Tower; Cleveland, 13212 Shaker Square; Chicago, 360 North Michigan Avenue; St. Louis, 10 South Brentwood Boulevard; Houston, 1300 Main Street. **West Coast: Wilson Meyer Co.,** San Francisco, 333 Montgomery Street; Los Angeles, 4800 District Boulevard; Portland, 520 Southwest Sixth Avenue; Salt Lake City, 73 South Main Street; Seattle, 821 Second Avenue.

Tenox BHT

Get it in the Midwest from

Carroll Swanson Sales Co.

620 D. M. Bldg., Des Moines, Ia., Tel. CH 4-5177

SOUND BUSINESS PLAN

Are you making money with your grinding and mixing equipment?

Let's look realistically at your custom grinding and mixing business. Is it making money for you? Or is it just a service rendered by you . . . one that wipes out other profits that you are entitled to? If this is your problem, let's talk about it together, for Ful-O-Pep has a new Pep-Mixing Program that will help you make money even at competitor's rates.

Increase efficiency of your operation with Ful-O-Pep's SOUND BUSINESS PLAN

Ful-O-Pep's new Pep-Mixing Program is not just to sell you a few concentrates for mixing. It's a *sound business plan!* It includes accurate costs of operation studies, layouts, and plans for lower cost, more efficient mixing, as well as famous Ful-O-Pep quality feeds with 1000 formulas and 13 concentrates to fit local conditions.

For more information, contact your local Ful-O-Pep Representative, or write: The Quaker Oats Company – Ful-O-Pep Pep-Mixing Dept. – Merchandise Mart – Chicago 54, Illinois.

LOOK AT THESE ADVANTAGES

Ful-O-Pep's new Pep-Mixing Program gives you!

- ✓ *YOU CASH IN* on the prestige of the Ful-O-Pep Trademark, a name farmers know. More than 40 years of continuous, hard-selling advertising is behind Ful-O-Pep.
- ✓ *YOU BUILD SATISFIED CUSTOMERS* with reliable, research-developed mixing recommendations formulated to meet your mixing needs.
- ✓ *YOU CUT DOWN* on your inventory of mixing ingredients by stocking only all-in-one-bag Ful-O-Pep Concentrates and Supplements.
- ✓ *YOU STEP UP STORE TRAFFIC* enabling you to sell complete Ful-O-Pep Feeds to these farmers when needed . . . as well as any related items that you may handle.
- ✓ *YOU GET PERSONAL SALES HELP.* Your friendly Ful-O-Pep Representative will help you sell . . . and will help you train your store employees, too.

Ful-O-Pep packs what grain lacks

Display this sign to boost your custom grinding and mixing business.

compared with $80,000 in 1952. Of last year's gross $110,000 came from feeds (about 1,200 tons), $60,000 from chicks, $8,000 from equipment, $6,700 from remedies and the remainder from such services as chick starting, dewinging, debeaking, worming and others.

Mr. Maahs feels that the feed and chick lines, being closely related, make an ideal selling combination and that he needs to specialize in them, in order to keep abreast of developments and to give the utmost in service to his customers. In addition, he feels that the addition of packaged health supplies and feed equipment are necessary to round out his sales program. Health products of Dr. Salsbury's Laboratories, Charles City, Iowa, and Jamesway equipment are handled by the Whittemore firm.

A $2 a ton discount is allowed for cash and 30 days is considered cash.

Although Elmer Maahs has been owner of the Whittemore Hatchery only since July, 1951, the business was operated by his father, Ed. H. Maahs, for 25 years previously at the same location. The latter is still an employee of the firm and is in charge of the hatchery end of the business. He is thoroughly experienced in hatching and handling Hy-Line chicks of Hy-Line Poultry Farms, Des Moines, Iowa, and directs activities of 10 chick salesmen and one sales supervisor in a 25-township area. The father also supervises the 26 incubators which have a 120,000-chick capacity.

There are five full time employees, in addition to Elmer Maahs. One of the five is Mrs. Elmer Maahs who does the bookkeeping.

NAMED TO COMMITTEE

OKLAHOMA CITY—B. D. Eddie, president and general manager of Superior Feed Mill, Oklahoma City, has been appointed by Governor Raymond Gary to serve on the state board of arbitration and conciliation.

Willard H. Allen, Poultry Leader, Dies

TRENTON, N. J.—Willard H. Allen, 64, who served as New Jersey Secretary of Agriculture under six governors, died recently at Flemington, N. J., following a heart attack.

He had served continuously since 1938 in the cabinets of Governors Hoffman, Moore, Edison, Edge, Driscoll and Meyner. He retired recently.

A graduate of the University of Connecticut in 1916, he became a poultry extension specialist at the University of Georgia and the University of Connecticut, and he joined the staff at Rutgers University in 1921.

At Rutgers he gained recognition as an outstanding poultry leader. He was one of the founders of the Jersey Chick Assn. and of the Northeastern Poultry Producers Council.

R. H. Ayers

SALES PROMOTION—R. H. Ayers, for the past several years manager of the Toledo sales division of the Chase Bag Co., has been promoted to the position of sales manager of the company's paper bag division, New York. Mr. Ayers joined Chase Bag in 1939 as a salesman at Detroit. He served as manager of the Detroit sales office, as sales manager of the Toledo branch and as manager of the Toledo sales division.

Grain Sorghum Stocks Down 10% From Year Ago

WASHINGTON—Stocks of grain sorghums on Jan. 1 at 114.3 million hundredweights (204 million bushels) were 10% below the record stocks of 126.8 million hundredweights a year ago, according to the U.S. Department of Agriculture.

Supplies of grain sorghums for 1956-57 totaled 160.4 million hundredweights (286.4 million bushels), 17.4 million below the record supply of a year ago, but 51.1 million above the 5-year (1950-54) average.

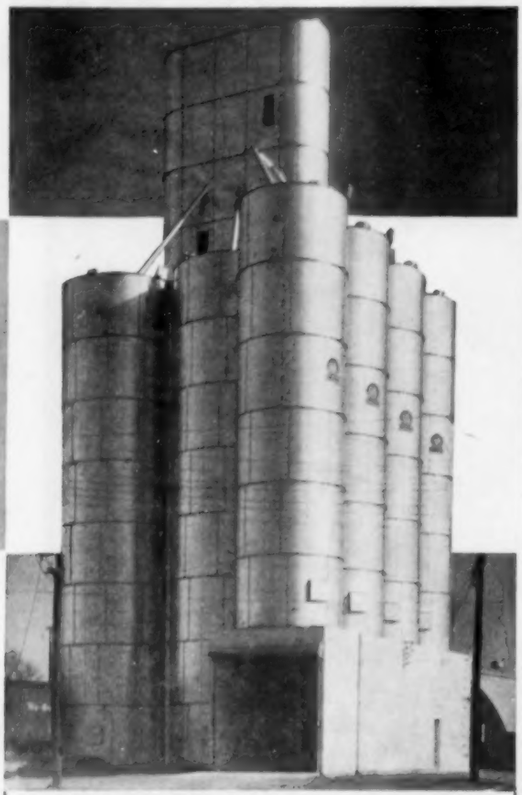
Stocks of grain sorghums in all positions on Jan. 1 were divided as follows: On farms 32.9 million hundredweights; terminal stocks 15.8 million and interior mills and elevators 65.7 million. Of the total stocks on Jan. 1, the Commodity Credit Corp. owned 33.8 million hundredweights, compared with 26.4 million a year earlier.

Exports of grain sorghums totaled about four million hundredweights (7.2 million bushels) during the first quarter of this year. These compare with 10.1 million hundredweights exported the first quarter of last season and 1.9 million the same period of 1954-55. The quantity fed during the first quarter totaled 41 million hundredweights or about the same as a year earlier.

So You Don't Need BIG Capacity!

You Do Need MODERNIZATION...

To Handle the Next Grain Harvest Fast and Efficiently!



Another Columbian "New Look" Installation — Riverdale Grain Company of Riverdale, Nebraska, took this modern Columbian way to meet today's problems. Columbian designed and master-crafted this 60,000 bu. storage capacity elevator with four main tanks 15' x 61', and four tanks 12' x 48' for blending and classifying with an all-steel 9' x 24' x 43' headhouse. (Columbian also builds modern steel elevators with capacities well over 300,000 bu.)

MASTER-CRAFTED BY COLUMBIAN SINCE 1892

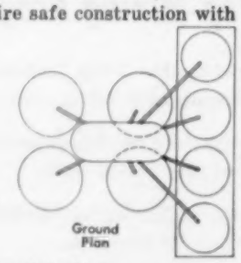
With today's harvesting time counted in weeks instead of months, speedy grain handling in a modern elevator is of vital importance. Large capacity may not be necessary if your elevator is highly efficient and modern . . . equipped for fast classifying and blending of grains.

Riverdale Grain Company's new Columbian all-steel elevator at Riverdale, Nebraska is an example of what you can do with relatively small capacity and high efficiency. The new 60,000 bu. capacity elevator, with 4 main tanks, 4 classifying and blending tanks and a headhouse is a "working house".

The new wider driveway and arrangement of tanks provides faster unloading, less waiting time for customers. With the elevator's services to growers and shippers expanded, Riverdale's old elevator adjoining, is still available for long storage or emergency capacity at peak demand.

With such a modern Columbian bolted steel elevator, the small operator can meet the competition. Without it, the time is fast approaching when grain growers will pass him by for those who can handle his grain faster, store it more safely and efficiently. Columbian bolted steel elevators meet and comply with the new sanitary requirements for rodent-free, vermin-free storage. They provide fire safe construction with the *extra* strength of steel.

How long will a Columbian bolted steel grain tank last? No one knows. None has ever worn out. Not one has ever been demolished by a tornado or cyclone.



Ground Plan

It's time to take a "New Look" at your present elevator — or the new one you are planning. Columbian engineers will be glad to help you. Write for the new Columbian Bolted Steel Grain Elevator Book.

COLUMBIAN STEEL TANK COMPANY

P.O. Box 4048-R Kansas City, Mo.

Associate Member, Grain & Feed Dealers National Association.
Member, American Dehydrators Association.

Reg. U.S. Pat. Off.

STEEL, Master-Crafted by Columbian . . . First for Lasting Strength

DIGESTIBLE!

THAT'S ONE OF THE BIG DIFFERENCES IN OYSTER SHELLS

TESTS show that pure, soft EGGSHELL BRAND Oyster Shells turn into egg shells in as little as 6 hours after consumption. Substitutes just aren't as palatable. Insist on the shells softened by centuries of aging at the bottom of Mobile Bay—EGGSHELL BRAND Oyster Shells.

EGGSHELL BRAND

A PRODUCT OF OYSTER SHELL CORPORATION

What is a Country Doctor?

This man has tired lines under his eyes. At times he says to himself: "I can't go on"—but he *does* go on. He's not in his calling for reward, yet his reward is the richest of all—the love of his fellow man. He is not important, if by importance we refer to wide-spread fame. But to the area and people he serves, he is all-important—few men achieve such importance. This is the Country Doctor.

Sometimes the Country Doctor is over-glamorized. He's *not* glamorous. He's a hard-working medical man who works at all hours under some of the most impossible physical conditions. The silent fields witness his passing on roads dimly lit by an early-morning quarter-moon. And, in winter, that same road can be a nightmare of glazed ice and drifted snow.

It would be interesting to assemble all the Country Doctors to find just what made each one decide upon this hard, selfless existence.

Each man in his heart may have had a different reason for being a Country Doctor, but the end-result is the same—he is serving agriculture.

Like the doctor, there are many who serve agriculture in many different ways—the county agent, the rural minister, the country editor, the county home agent—the list is long.

Backing up these people are others who serve in different ways—creative processors such as Cargill, for instance.

The doctor cares for the physical health of his community; creative processors such as Cargill promote the economic well-being of their farmer-partners by providing better markets for farm products and better products for the farm.

As in the case of the doctor, much of the work of the creative processor is "back of the scenes"—perhaps in the Cargill laboratories, or in the test-plots for hybrid corn, or in the experiments that convert farm products to new uses. (Did you know that about 75% of the total farm crop is changed in form for industry and the consumer by creative processors such as Cargill?)

For more than 90 years, Cargill has been a willing No. 2 man on the farmer-processor team—a team very important to America and the free farm economy.

Like the Country Doctor, we plan to continue to serve agriculture faithfully in order to deserve the confidence thus far shown us by the agricultural community.

Cargill

90 Years of Creative Processing of Farm Products

CARGILL

For free color reprints, suitable for framing, write Cargill, Inc., 200 Grain Exchange, Minneapolis 15, Minnesota.

Allied Industries Partly Blamed for Too Few Agriculture School Graduates

KANSAS CITY—The problem of too few agricultural school graduates for the number of job openings was brought home to Kansas City agricultural business leaders here recently by deans from two land grant colleges.

Dr. John H. Longwell, dean, University of Missouri college of agriculture, and Dr. A. D. Weber, dean of agriculture, Kansas State College, said that the failure of industries allied with agriculture to present their stories to young persons is partly responsible for the decline of agricultural school enrollments.

Dr. Longwell said a survey by the Kellogg Foundation, East Lansing, Mich., found about 15,000 positions open annually to graduates of agriculture schools. In June, 1956, fewer than 7,000 students received agriculture degrees, he added.

One difficulty, the educators agreed, is that too many persons believe once the student has a degree he will return to the farm, when actually about 40% of the population is engaged in some other phase of food handling, such as processing, distribution and storage.

Dr. Longwell said there are more than 500 distinct occupations open to agricultural college graduates. The problem is to inform and to sell talented young persons on the idea of agriculture as a career.

Formerly, Dr. Longwell said, companies conducting interviews with graduating agricultural students went to the University of Missouri in February and March. The shortage is so acute, he said, that these companies began scheduling interviews last October.

At Missouri 60% of the students enrolled in agriculture are from farms, Dr. Longwell said. Twenty-three per cent are from small towns, 12% from St. Louis and the remainder from Kansas City, St. Joseph, Joplin and Springfield.

Dr. Weber said that 100 years ago agriculture represented about 50% of the gross national product, and that today agriculture represents about 40%, though much more of it is represented by industries allied to agriculture.

The meeting was sponsored by the Kansas City Chamber of Commerce agricultural promotion committee.

FEED STORE TO OPEN

MEMPHIS, MO.—A new feed store was opened here recently by Homer Kapfer. It will handle Pay Way feeds. The firm will have pick-up and delivery service.

None Better

for Storing and Shipping Feeds!

M/W MULTIWALL PAPER BAGS

by **CHASE BAG**

Multiwall Bags, like everything else, should be *right* for the job—right for *you*. Anything less wastes your time and dollars, means loss and inconvenience to customers.

That's why Chase supplies Multiwalls in such wide variety, in so many types and constructions . . . why the many Chase options—in papers, tapes, sewing—permit precise, money-saving selection.

Chase recommendations are backed by 110 years of bag-making progress . . . of service and satisfaction. It's wise to specify "Chase" for *dependable* Multiwalls—for uniformity, durability, attractive bag printing . . . reliable shipment.

And look to Chase, too, for burlap bags, cotton bags, smart pretty-prints. Make Chase your bag-packaging headquarters.

CHASE BAG COMPANY
General Sales Offices: 309 W. Jackson Blvd., Chicago 6, Ill.

32 Coast-to-Coast Bag Plants and Sales Offices—a Nationwide Staff of Bag Specialists

Charles T. Graham C. L. Alsbrooks

Cosby-Hodges Names New Sales Specialists

BIRMINGHAM, ALA. — Cosby-Hodges Milling Co., Birmingham, is starting the new year with expanded sales goals surpassing anything in its 72-year history, J. C. Hodges, Jr., executive vice president, announced.

Mr. Hodges said a recently devised specialized sales management and service program has been adopted by the company to cover three specialized fields of sales and service.

The new program has brought the appointments of Charles T. Graham to sales manager in charge of the store merchandising division of food products, C. L. Alsbrooks to sales manager in charge of specialized feed sales and service division, and Lee Moseley, sales manager in charge of the southeastern franchise dealership division. Mr. Hodges said the men will spend 90% of their time in the field servicing customers and training salesmen. The program is designed to bring a close relationship between the customer and top company management.

Lee Moseley

Georgia Reports Stilbestrol Studies

EXPERIMENT, GA.—D. M. Baird and O. E. Sell of the Georgia Experiment Station reported recently on tests on oral and implanted stilbestrol for growing-fattening beef cattle on winter pasture and in dry lot

Summarizing a series of tests, they said:

1. Either oral or implanted stilbestrol will increase the gains of fattening steers on temporary pasture.

2. The response to implanted stilbestrol appears to be greater and more rapid than to oral stilbestrol.

3. More "side effects" will result from implantation of stilbestrol, at levels used in the tests, than from oral feeding of 10 mg. per day.

4. The optimum amount and frequencey of stilbestrol implantation are somewhat uncertain and more research is in progress.

5. Based on tests, it appears that about 48 mg. of implanted stilbestrol will give a definite increase in rate of gain without side effects being too pronounced for the cattle of the size and age used.

6. Grazing of excellent winter temporary pasture is an economical and profitable way to fatten cattle.

7. Feeding of grain on winter temporary pasture, provided adequate forage is available, is of doubtful value.

MARCO - LASS (M-85)

Cane Molasses and Soybean Millfeed

DEHYDRATED

85% Cane Molasses

42% Sugars or More

Jobber Franchises and Dealerships Available Contact

MARCO MILLS, INC.

JOPLIN, MO.

Cash in

on today's

"Young-Life Hunger"

for milk . . .

Let Peebles' Whey Products give your feeds

the FULL POWER TREATMENT

There's "magic" in milk . . . health-giving, growth-promoting, life-saving factors not duplicated by science. This "magic" gives modern feeds a competitive edge — contributes graphically to "young-life" formulas for starting, breeding, gestation. *And* your most economical and effective source of this "magic" is Peebles' Whey Products.

One reason: Peebles' *concentrates* the important milk nutrients from whey and whey products.

For example, Peebles' M-N-C supplies more than twice the whey factor per pound . . . contributes more of many of the milk vitamins and milk minerals than dried skim milk or dried buttermilk. M-N-C extends the effectiveness of antibiotics, too. Helps other feed nutrients do a better job. Sharpens appetites. Steps up animal vigor. And no other milk-source ingredient is easier to mix.

Peebles' Whey Products are spray-dried by exclusive process. They're uniform, cake-free. And they're offered in three formulations . . . M-N-C, LACTO-G and WAY-SWEET . . . for tailor-mixing to meet specialized needs.

Supply? Peebles' Dried Whey Products are readily available the year-round . . . when you want them, where you want them, season after season. And that's just the beginning. For the full story of this modern way to give your feeds the FULL POWER TREATMENT, turn the page . . .

Peebles'
WHEY PRODUCTS

WESTERN CONDENSING COMPANY

APPLETON, WISCONSIN

World's Largest Producer of Whey Products

Peebles' M-N-C (DELACTOSED)

Peebles' LACTO-G (GENERAL FORMULATION)

Peebles' WAY-SWEET (HIGH LACTOSE)

3 different Peebles' Whey Pr fit specific feed formulas . . step up performance . . . give your feeds a competitive edge in selling power!

Peebles' Whey Products are power-packed with the vital milk nutrients that keep young poultry and livestock fit and sharp.

Peebles' Whey Products contain the health- and growth-benefiting minerals, proteins and vitamins of milk in concentrated amounts. And because all Peebles' products are spray-dried by exclusive process, they retain the amino acids that might be damaged or destroyed by high heat.

Each Peebles' Whey Product is a distinct formula. Each furnishes selected amounts of nutrients. As a result, Peebles' delactosed M-N-C . . . general-purpose LACTO-G and high-lactose WAY-SWEET let you easily tailor your feeds to special needs of the particular bird or animal.

Mixing with concentrated Peebles' gives your feeds the full power treatment . . . and poultry and livestock men are quick to see the bonus-growth-results.

Broiler feeds and other poultry rations

M-N-C contains 50% more non-lactose nutrients than whole dried whey. Higher concentrations of whey factor and inorganic "ash factor" in M-N-C result in top efficiency for feeds. *Just 2% M-N-C equals 3% whole dried whey in whey factor.* Gives extra nutritional "punch" at a saving because it's used at lower levels. Permits the use of additional high-energy ingredients. M-N-C is ideal for swine rations too.

Peebles' M-N-C (DELACTOSED)

Peebles' LACTO-G (GENERAL FORMULATION)

Peebles' WAY-SWEET (HIGH LACTOSE)

General formulation

LACTO-G is a pure Whey Product that meets every requirement for all-around mixing. Steps up performance of calf, pig and poultry feeds. It's a superior source of whey factor and lactose when only one whey product can be used. Like all Peebles' Whey Products, LACTO-G is spray-dried to assure uniformity of texture and color . . . smooth mixing.

Pig starters, pre-starters, milk replacers

Research by leading college authorities cites lactose as a most important growth element for pigs and calves. It's the carbohydrate of choice and is utilized most efficiently. Peebles' WAY-SWEET contains 80% lactose — an unusually high level — makes an ideal fortifier for "young-life" feeds and a perfect poultry conditioner. Costs less than other lactose sources too.

Peebles' Whey Products are rich in milk nutrients that boost "Young-Life" performance

B-COMPLEX VITAMINS
Whey products are one of the best natural sources of many important B-complex vitamins such as Riboflavin, Pantothenic Acid and Choline. Peebles' Whey Products help correct the deficiencies of these vitamins in grain and vegetable proteins.

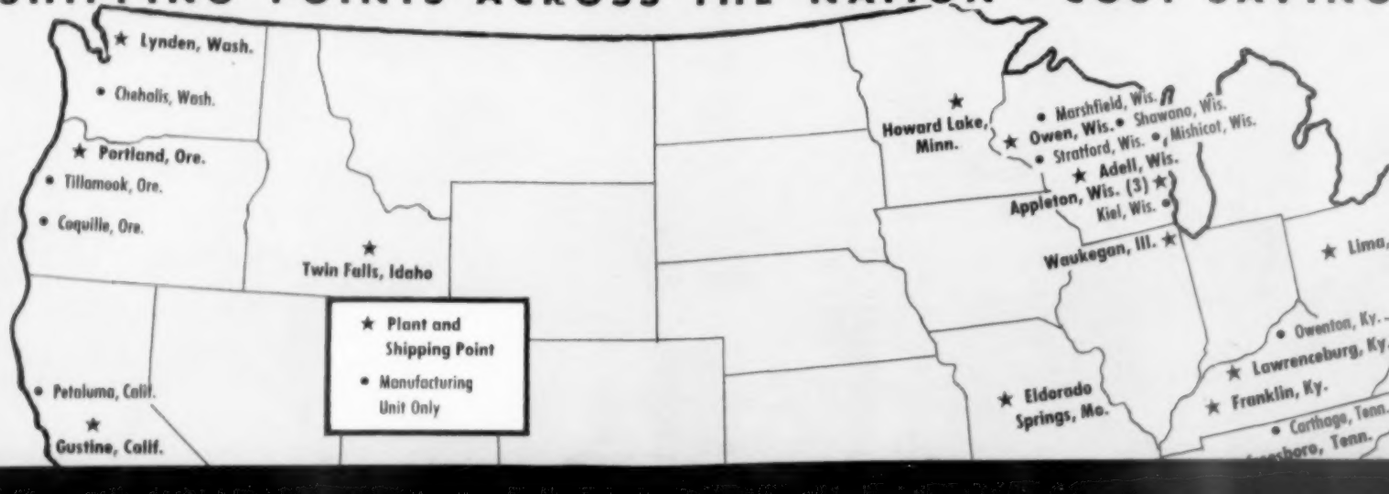
LACTOSE (Milk Sugar)
The lactose, or milk sugar, supplied by Peebles' Whey Products is a highly digestible carbohydrate and a valuable source of energy. This high-energy value and absence of fiber in Peebles' Whey Products make an important contribution to high-energy type rations. Lactose also helps keep birds and animals in a healthy condition since it favors the development of desirable organisms in the intestinal tract.

The "WHEY FACTOR"
Peebles' Whey Products are the most economical source of the whey factor. This unidentified nutrient is shown by research as essential for optimum growth of poultry and other livestock.

MILK PROTEIN
Dried Whey Products supply proteins of high biological value. These proteins from whey products aid in providing a proper balance of essential amino acids.

MILK MINERALS
Many minerals essential to animal health are supplied by Peebles' concentrated Whey Products. These milk minerals are readily utilized by poultry and other livestock.

SHIPPING POINTS ACROSS THE NATION — COST SAVING

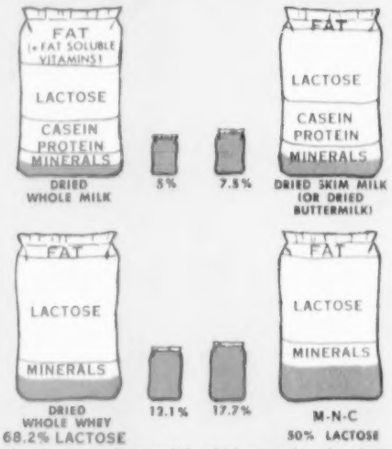


Products

. . .

Peebles' Whey Products

supply MORE growth-boosting milk-source whey nutrients at LOWER COST because they're concentrated



*(Colored areas indicate solids which carry the whey factor)**

This diagram shows what happens when various fractions of milk are removed during processing. Each bag represents a 100% milk solids product containing different proportions of the various components.

Note how the serum protein (lactalbumin) becomes more concentrated through the removal of butterfat and casein, and how it is further concentrated when part of the lactose is removed from whole whey.

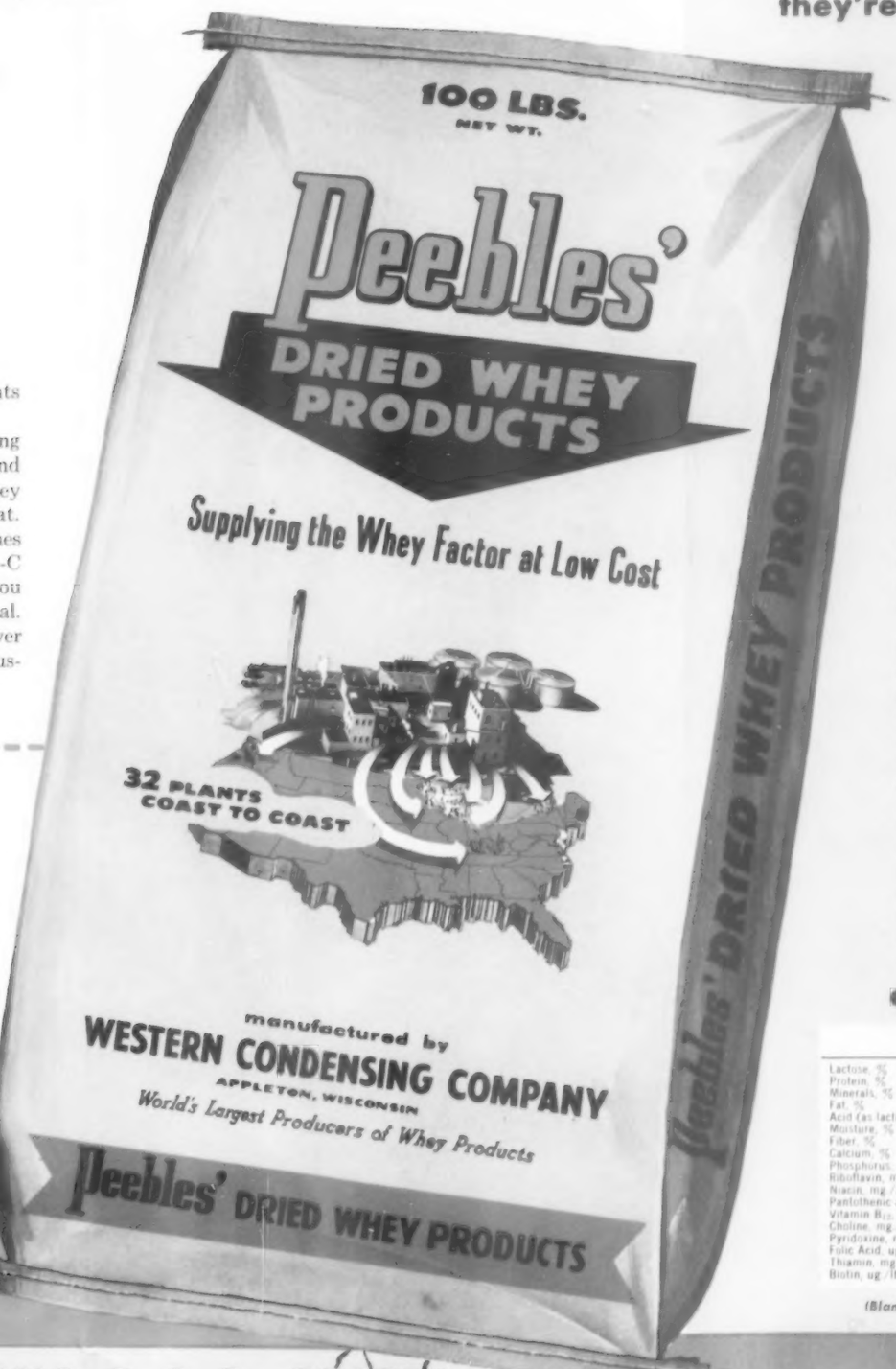
Research shows that the unidentified factors in milk products are carried along with this serum protein fraction. And, when this fraction is concentrated, there is similar concentration of the unidentified factors (and the B-complex vitamins).

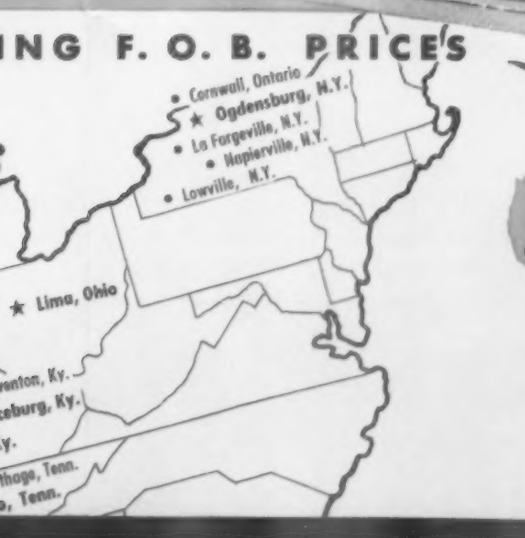
For this reason, a partially delactosed whey product (Peebles' M-N-C) is the best known source of the unidentified factors of milk. Since these factors were first discovered in whey, they have been termed the whey factor.

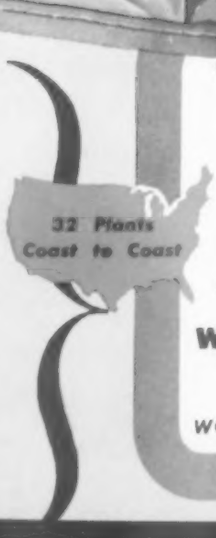
COMPARATIVE ANALYSIS

	Peebles' M-N-C	Dried Whole Whey	Dried Buttermilk	Dried Skim Milk
Lactose, %	51.7	68.2	47.8	50.5
Protein, %	17.7	12.1	32.9	35.9
Minerals, %	14.1	8.5	8.1	7.9
Fat, %	1.5	0.75	4.68	0.88
Acid (as lactic), %	4.0	4.0		
Moisture, %	4.0	4.0	3.90	3.23
Fiber, %	None	None	None	None
Calcium, %	1.5	.9	1.30	1.31
Phosphorus, %	1.0	.7	1.0	1.02
Riboflavin, mg./lb.	24.0	9.0	12.00	9.00
Niacin, mg./lb.	8.0	5.0	5.00	6.00
Pantothenic Acid, mg./lb.	34.0	22.0	13.00	16.00
Vitamin B_{12}, ug./lb.	15.0	11.8		30.00
Choline, mg./lb.	1900.0	1100.0	500.0	600.0
Pyridoxine, mg./lb.	2.4	1.3		3.10
Folic Acid, ug./lb.	115.0	60.0		
Thiamin, mg./lb.	2.2	1.8	1.70	1.50
Biotin, ug./lb.	270.0	160.0		263.0

(Blanks in table above indicate absence of accurate values)







Peebles'
WHEY PRODUCTS
WESTERN CONDENSING COMPANY
Appleton, Wisconsin
WORLD'S LARGEST PRODUCER OF WHEY PRODUCTS

Here, in the words of Successful Feed Dealers, are a few of the reasons why:

It pays to be a Dannen Dealer!

"RESALE WORK"

"I find in these times with greater competition in the feed business, the service to dealers and the quality of Dannen Mills' products has helped me more than ever. Resale work by Dannen territory men is one of the key factors for a successful feed business."

Lyle Neff, Jr.—Neff Equipment Co.
Hemingford, Nebraska

"DANNEN DEPENDABILITY"

"You can always count on service and high quality feeds when you're doing business with Dannen. My customers like a feed they can count on—and Dannen has sold them on quality and dependability. That's why my feed tonnage has constantly gone up!"

Ardell Moore—Moore's Feed and Supply
Carthage, Missouri

"SALES TRAINING SCHOOL"

"I like the entire Dannen Merchandising Program, but I believe the thing that has helped our business most is the Dannen Sales Training School. One of my employees who formerly worked in the warehouse became a key man in our sales department after attending the two-day Sales Training Class conducted at the Dannen Research Farm."

Eldo Stucky—Stucky Feeder's Supply
2011 N. Mosley, Wichita, Kansas

DANNEN

DEALERSHIPS AVAILABLE

Write today for complete information

Here's How Dannen Helps You Sell:

● Concentrated Farm Resale ● Feeder Meetings ● Sales Training School for Dannen Dealers and their Employees ● Extensive Newspaper and Farm Paper Advertising ● Strong Radio Coverage ● Local Newspaper Advertising ● Live Displays ● 247-Acre Research Farm ● Dealer Meetings ● Premium Promotions ● Product Control Department ● Feeder Finance Programs ● Effective Point-of-Sale Material ● Outdoor Signs ● Special Promotion for New Dealers.

DANNEN MILLS, INC. ST. JOSEPH, MISSOURI

See it in Chicago* . . .

The New JAY BEE

SUPER-MATIC

HAMMERMILL

WITH EXCLUSIVE

"PUSH-BUTTON"

SCREEN CHANGE

JAY BEE

*The Jay Bee SUPER-MATIC, the "All-in-One" Feedmaker, and other Jay Bee units will be on display at the American Feed Manufacturers Association meeting in Chicago May 1-3.

They'll be in Booths 71 through 76. Be sure to see them—and to register for Sedberry's many free prizes!

The latest, greatest unit in the famous Jay Bee line—a rugged, high-capacity, all-purpose mill with features found in no other hammermill today—the product of more than 35 years' experience in engineering, manufacture, and application.

Check these features:

- **FOUR ELECTRICALLY OPERATED SCREEN CHANGES—Instant—Automatic. The Jay Bee SUPER-MATIC screen magazine holds four screens, giving a wider range of grind from fine to coarse in one mill run than ever before. . . . An independent motor changes screens instantly, automatically—without stopping the mill. Determine the grinds you want and let the mill do the work—changing screens with push-button ease and no loss of grinding time.**
- 20", 3600 RPM, 60-75 HP mill. One-piece, heat treated, multiple cutting edge hammers with four changes of grinding position, mounted free swinging for protection against shock loads or foreign material.
- Separate 20-25 HP motor driven fan—all the power of the mill motor goes into grinding.
- Suspension grinding—this exclusive Jay Bee method holds stock in contact with hammers by weight of the stock itself, giving a cooler, more uniform grind.
- Precision engineering and built-up, bolted construction mean a smoother running mill now and for years to come.

J. B. SEDBERRY, Inc., Franklin, Tenn.

Mail This Coupon Today for Full Details!

J. B. Sedberry, Inc., Dept. F., Franklin, Tenn.
● Please send me complete information about the new Jay Bee SUPER-MATIC Hammermill.

Name .....

Company .....

Street or Box .....

City ..... State .....

Livestock Feeding Research Reported at Meetings of Southern Agricultural Workers

By Dr. O. D. Butler
Texas A&M College

EDITOR'S NOTE: Research on various aspects of livestock feeding was reported at the recent meetings in Birmingham, Ala., of the Animal Husbandry Section of the Association of Southern Agricultural Workers. The accompanying article is first of two reviews of reports made at the meetings by college and industry scientists. Dr. Butler, head of the animal husbandry department at Texas A&M College, summarizes and interprets the reports. In this article, he deals with a number of reports on ruminant feeding, including pasture feeding studies and several studies on the use of hormones and antibiotics in cattle feeding. The second of the two articles by Dr. Butler will appear in a subsequent issue of Feedstuffs. A review of the poultry section meetings appeared in Feedstuffs of March 9. The headings on the following summaries give the titles of the reports and the names of the persons making the reports.

v v

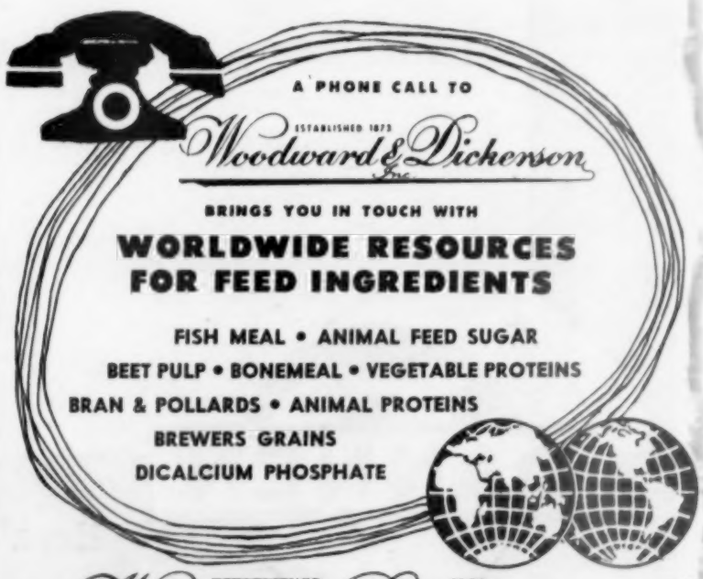
The mild winter climate of southern states allows excellent winter temporary pasture production. Conditions during the spring and early summer favor high production of permanent pasture grasses. Late summer and early fall usually are a period of stress, with high temperatures, inadequate rainfall and poor forage quality. In general, soil fertility is inadequate for maximum pasture production, but an economical supply of chemical fertilizers has reduced this disadvantage. High fertilization rates, improved pasture grasses and adequate moisture supply combined give fabulous yields of forage for livestock.

Proper utilization of the resources and natural advantages of the South in livestock production merits the attention of an increasing and imposing number of well trained animal scientists. Papers presented at these meetings usually emphasized pasture utilization by cattle, sheep or swine. Grain supplements, hormones and antibiotics frequently were included in experimental treatments to obtain more efficient production or increase the salability of gains made on pasture.

Management studies were reported aimed at solution of southern problems such as internal parasites, low reproductive rates and nutritional deficiencies.

The increasingly important contribution of the South to the meat supply of the nation seems assured.

Lamb Fattening-Digestibility Studies with Supplemental Fat, Erythromycin and Diethylstilbestrol—R. B. Granger, University of Kentucky: Rations containing fat with erythromycin and fat with diethylstilbestrol and erythromycin caused the lambs to go off feed for at least 28 days out of the 59 day feeding period. The addition of erythromycin or fat resulted in increased gains and improved digestibility of crude protein and fiber. No reason was given or



ESTABLISHED 1873
Woodward & Dickenson Inc

1400 SOUTH PENN SQUARE, PHILADELPHIA 2, PA., U.S.A.
TELETYPE PH109 PHONE LOcust 4-5600

BANGKOK . . . HAVANA . . . MADRID . . . MANILA . . . SEOUL . . . TOKYO . . . WASHINGTON, D. C.

was apparent for lambs going off feed on rations containing combinations of fat and erythromycin and fat, diethylstilbestrol and erythromycin compared to rations containing fat alone.

Feeding Western Lambs on Winter Pasture vs. Dry Lot With and Without Stilbestrol Implants — D. M. Baird, Georgia Experiment Station: The lambs used in this trial came from the Sonora-Barnhart area of Texas. Impressive gains were made by these lambs on pasture alone. In fact the gain on temporary winter pasture amounted to .41 lb. per day and this gain was exactly the same as for the lambs in dry lot. The group of lambs on winter temporary pasture supplemented by shelled corn, however, gained .48 lb. per day. Stilbestrol tended to increase rate of gain and lower carcass grade, but the differences were not significant.

One of the most striking conclusions was that there was no ready market for lambs fed like this in Georgia. The lambs had to be sold outside the state and probably brought less than the market value. The low market price coupled with the high cost into the lot because of heavy shipping charges resulted in net losses on all lambs. The net loss per head amounted to 85¢ for those fattened by pasture only, $2.31 for the lot which received pasture supplemented by corn and $5.54 for the lambs fattened in dry lot.

This trial gave another indication that the principal basis the South has for competition in livestock production is to grow lush winter pastures for use in fattening lambs or for use in cattle production. Livestock gains made on properly supplemented well fertilized pastures are usually very economical compared to such gains made in dry lot.

Early Embryonic Development of Sheep—C. W. Alliston, Mississippi Experiment Station: The influence of high temperature on embryo mortality is very significant. Livestock breeders of the South and Southwest are plagued with low reproductive efficiency in breeding animals. This is particularly true for cattle and sheep. The influence of embryo mortality on low reproductive efficiency has received increased attention lately. Possibly individual cattle or sheep that are able to withstand high external temperature without an accompanying rise in body temperature would be more efficient in avoiding the incidence of embryo mortality. It is coincidental that another paper was presented at the meeting showing an influence of high temperature on embryo mortality in swine. This lead deserves a great deal of increased experimental attention.

Some of the same effect was reported by Dr. Joe B. Whiteman, Oklahoma A&M College, in his paper titled, "Some Factors Influencing Ewe Conception During Late Spring."

The Use of Purebred and Crossbred Cows in the Production of Slaughter Calves—W. C. Godley, Clemson Agricultural College: Two hundred and ten day weaning weights for calves out of purebred Angus cows were lower than for calves out of Brahman-Hereford crossbred cows, Brahman-Angus crossbred cows, and Hereford-Angus crossbreds. All of the calves were sired by the same Shorthorn bull. The weaning weights for all of the calves were impressive, however, as they ranged from 458 to 496 lb. Part of this good weaning weight record was due to creep feeding the calves. Carcass grades and dressing percentages were very good. It must be concluded that calves of this age are very effective users of feed and very efficient producers of meat.

Detergents for the Prevention of Bloat in Cattle Grazing Ladino Clover—B. F. Barrentine, Mississippi Experiment Station: Dr. Barrentine and co-workers have developed some very ingenious and effective methods of testing compounds for bloat prevention. The detergents reported on in this trial were ineffective in preventing bloat, but Dr. Barrentine reported that a penicillin-salt mixture still appears to be effective. Bloat has been rather effectively prevented among steers proved to be susceptible to bloat by making available a penicillin-salt mixture containing about 50 grains of penicillin per ounce of salt. Average intake of this self-fed mixture has been about .7 oz. per day per steer, with a variation between .4 and 1.3 oz. Dr. Barrentine pointed out again that penicillin is effective only if introduced orally and if the intake occurs approximately a half day or more prior to exposure of the cattle to bloating conditions. Injected penicillin is ineffective even in massive doses.

The Utilization of Anhydrite (Anhydrous Calcium Sulphate) in Inhibiting the Intake of Cottonseed Meal by Beef Cattle—George L. Robertson, Louisiana State University: Dr. Robertson reported that the anhydrous calcium sulphate was effective in limiting feed intake. His results indicated, however, that this anhydrite was not as effective as salt. There was apparently no toxic effect. Steers which had an intake of .8 lb. of cottonseed meal per day from a mixture supplied by a 1 in 3 mixture of salt and cottonseed meal gained .77 lb. which was almost equal to the .81 lb. gained by steers which consumed almost twice as much cottonseed meal in a 1 in 3 mixture of anhydrite and cottonseed meal. Even though the anhydrite apparently was not toxic it seemed to have a greater deleterious physiological effect than salt.

Dr. Ben Barrentine also commented that Mississippi workers had found gypsum (calcium sulphate) to be effective in limiting cottonseed meal consumption. Workers at Mississippi adjusted the gypsum-cottonseed meal mixtures to allow consumption of 1½ lb. of cottonseed meal per day. Eleven to 12% gypsum was effective in limiting consumption of cottonseed meal to 1½ lb. per day while 16 to 17% of salt (sodium chloride) was required to do the same job.

It must be emphasized that all of these cattle fed cottonseed meal-salt mixtures and other combinations which limited the intake of cottonseed meal has access to all of the low quality roughage which they desired. Feeding cottonseed meal and salt mixtures is considered dangerous by some workers in the absence of adequate amounts of roughage.

A Disturbance in Mineral Metabolism of Kentucky Cattle with Special Reference to Copper — R. H. Singer: Kentucky workers have conducted some very careful research on a mineral deficiency which causes unthriftiness, lameness and fading hair coat colors in some herds in Kentucky. Low copper availability and high molybdenum intake were found to be involved. The condition could be corrected rather effectively by allowing the cattle access to cop-

SOLULAC

70% corn distillers solubles
30% corn distillers grains

TELEGRAM

YES SOLULAC PRODUCED AND AVAILABLE EVERY WEEK OF THE YEAR STOP IMMEDIATE SHIPMENT NOW OR LATER

And this is your confirmation. You *can* formulate your feeds with Solulac and be confident of a supply that's continuous. So take advantage of Solulac . . . its high nutritional values . . . its unidentified growth factors . . . its vitamins. In 50 and 100 pound bags or bulk carloads.

Write, wire or phone.

ALSO A CONTINUOUS SOURCE OF CORN DISTILLERS DRIED GRAINS

GRAIN PROCESSING CORPORATION

MUSCATINE, IOWA • Telephone AMherst 3-1321 TWX 495

Primary Fermentation Products

Riboflavin — Vitamin B-12 — GP-101, source of whey and other unidentified growth factors

per sulphate-salt mixtures. Commercially available salt-mineral mixtures also were found to be effective in correcting the condition.

There was some evidence that the copper deficiency may also have been implicated in increased incidence of grass tetany. Pursuance of this lead might hold the key to increased research knowledge on grass tetany.

Feeding Values of Different Kinds of Silage in Fattening Rations for Slaughter Cattle—W. B. Anthony, Alabama Experiment Station: Dr. W. B. Anthony reported on the feeding values of different kinds of silage in fattening rations for slaughter cattle. The silage for lots 2 and 3 which received, respectively, corn silage and oat silage was put up in upright silos and probably was poorly packed. Anthony thought the silage to be rather low quality because it apparently had heated excessively. In contrast the sorghum silage which was put up in a trench silo was of higher quality and did not heat excessively. The lots of cattle which received high intakes of silage did not grade as high or gain quite as well as the lot of cattle which received a milled mix. Though the selling price of the cattle was about $2 per cwt. under the lot which received the milled mix, Anthony calculated that the differential should have been only 66¢ per cwt. He thought that an education job would be required for cattle buyers if silage feeding becomes common in Alabama.

Half of the cattle on each test were implanted with 36 mg. of stilbestrol. The implanted cattle showed increased gains of .29 lb. per day for the corn silage lot, .31 lb. per day for the oat silage lot and .58 lb. per day for the lot which received the milled mix. Baird and co-workers had reported earlier that stilbestrol implants markedly increased gains of western lambs fed on winter pasture or on winter pasture plus grain or in dry lot.

Without question silage is very good feed for fattening cattle. For the small operator a fairly high labor cost is likely to be involved, however, if he is required to fork the silage out of the silo and into the feed troughs. Big feedlots which use mechanized equipment to handle silage out of trench silos can do the job very efficiently.

The Value of Winter Pastures for Fattening Steers—W. C. McCormick, Georgia Coastal Plain Experiment Station: This paper emphasizes the advantage of Southern producers in being able to produce very lush temporary pastures during the winter growing season. The Georgia Coastal Plains Experiment Station at Tifton is normally able to produce very lush grazing from a period beginning about the middle of December to about the middle of March. Oats and Abruzzi rye are planted in alternate years. Oats show a definite advantage in production and in gain produced on steers. Workers at the experiment station believed in rotating the crops every year, however, as a disease control precaution.

Average daily gains on grazing for the past four years have been 2.43 lb. where the rye and oats were not supplemented with anything else. Ground snapped corn supplied during the entire grazing period at the rate of 5 lb. per steer per day increased average daily gain to 2.61 lb. A quite similar increase in gain could be obtained by doubling the corn allowance, and feeding only during the latter half of the grazing period. A better plan, however, seems to be to supply all of the grain to the cattle in dry lot at the close of the feeding period. Feeding in dry lot for only 35 days following grazing improved carcass grade by about ⅓ of a grade.

The Comparative Value of Coastal Bermuda Grass Silage and Hay for Fattening Steers—W. C. McCormick: The main objective of this study was to compare hay and silage made from Coastal Bermuda grass. Hay and silage were put up when the grass had made a growth of from 16 to 22 inches in height. The silage was packed well in a trench silo and most of the time no preservative or water was added.

The cattle were not heavily fattened as they graded only about high standard at the conclusion of the feeding trial. Dr. McCormick stated that these roughages were of medium quality, and for the length of feeding period which they used a low level of grain was inadequate for fattening steers. They concluded, in general, that there was little difference in feeding value of the two roughages.

It was determined that 2 or 4 lb. of blackstrap molasses could replace that much of ground snapped corn in the ration without reducing gain or feed efficiency. In one trial, the dry matter required per cwt. of gain was in favor of the molasses.

Growing and Fattening Steers on

Ila Jehl

ELECTED CHAIRMAN—Ila Jehl was recently elected chairman of the Memphis (Tenn.) Board of Trade Clearing House Assn. Mr. Jehl is connected with the Marianna Sales Company.

Planning a New Feed Mill?

FORSTER CAN DESIGN and BUILD YOUR COMPLETE PLANT

The right feed mill for your particular situation can make money and keep your products competitive. The wrong mill can be expensive for years to come. Building a mill today is a job for experts and that means Forster. Forster has a wealth of experience in feed plant design and construction. Call on us with your feed mill problem. See for yourself how our experience can help you.

Pictured above are Paul Forster (standing) and T. E. Forster, Jr., consulting on a design problem. Pictured at the left are two recent Forster built plants at Crescent, Okla., on the left, and Linn, Kansas, on the right. Designed for maximum efficiency and local diversification, these plants fit the needs of their communities.

forster

Machines for Modern Milling

MANUFACTURED FORSTER COMPANY

Mr. T. E. Forster, Jr.
Forster Mfg. Co., Box 366, Ada, Okla.

Dear Mr. Forster: I am interested in building a new plant. I would like to discuss my needs with you. No obligation.

Name .....

Street .....

City ..... State .....

Dried Brewers Grains
Corn Distillers Grains
Bran • Oats • Barfeed, Etc.
SEAWAY GRAIN COMPANY
351 Place Royale, Montreal, Que., Canada

Fleischmann's F·I·D·Y
IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

Ask the MERCK MAN

Whether it is a problem in mixing microingredients or giving your formulation the advantages of recent discoveries, the Merck man is a good man to know. He can place at your disposal Merck's vast research and production facilities—and hundreds of man-years of technical service experience in dealing with micronutrients and therapeutic agents in feeds. Get the Merck man in on your problems the next time he calls, or contact him through the Merck sales office nearest you.

ATLANTA • BOSTON • CHICAGO • DALLAS
KANSAS CITY • LOS ANGELES • MINNEAPOLIS • NEW YORK
PHILADELPHIA • ST. LOUIS • SAN FRANCISCO

Rations Fed During Periods of Stress Need Higher Vitamin Content

Moving, debeaking, pelleting, vaccination, parasites, extremes and sudden changes of temperature, disease symptoms like fever, diarrhea and poor appetite—all these situations increase the vitamin requirements of poultry. Any high-level antibiotic ration used to guard health during stress should contain therapeutic vitamin levels . . . especially the B vitamins in amounts several times those supplied by regular well-formulated feeds.

If you are marketing antibiotic *stress* feeds, you may want to review their vitamin content with your Merck man. He can help you pick, from a wide variety of Merck Vitamin Mixtures, the product best suited to your needs.

MERCK PRODUCTS
FOR THE FEED INDUSTRY

PRO-PEN® "4"
PRO-PEN® with B_{12} "2.3"
PRO-PEN® "50%"
SULFAQUINOXALINE
S.Q.® "25%" Ppremix
NICARBAZIN MIXTURE "25%"
NIACIN U.S.P.
DRY MIXTURE CHOLINE CHLORIDE
SOLUTION CHOLINE CHLORIDE
DL-CALCIUM PANTOTHENATE—CALCIUM CHLORIDE COMPLEX
NO. 525—CALCIUM PANTOTHENATE MIXTURE
NO. 54—RIBOFLAVIN MIXTURE
NO. 76—MENADIONE MIXTURE
POTASSIUM IODIDE MIXTURES
POTASSIUM IODIDE FREE-FLOWING POWDER
VITAMIN B_{12} SUPPLEMENT "6"
VITAMIN B_{12} SUPPLEMENT "20"
MULTIVITAMIN MIXTURES FOR FEED USE
STREPTOMYCIN SULFATE ORAL VETERINARY (POWDER)

Research and Production for Better Poultry and Animal Nutrition

MERCK & CO., Inc.
Manufacturing Chemists
RAHWAY, NEW JERSEY

VPI NUTRITION SCHOOL—Among the program participants at Virginia Polytechnic Institute's tenth annual nutrition school for feed men at Roanoke, Va., were the above men, from the left: Dr. H. N. Young, director, Virginia Agricultural Experiment Station; L. B. Dietrick, dean of agriculture, VPI; Dr. Wise Burroughs, Iowa State College; Dr. Paul H. Phillips, University of Wisconsin; Dr. R. B. Becker, University of Florida; and Stanley E. Aylor, Lynchburg (Va.) Milling Co., the latter representing the Virginia State Feed Assn., co-sponsor of the school.

Common and Coastal Bermuda Pastures—R. F. Wheeler, South Carolina Experiment Station: This report by Dr. Wheeler added additional evidence to the fact that the South has a big advantage in producing forage. In areas where rainfall is adequate, fertilization rates may be very high with increased yields of forage expected. The conclusion of this paper was that steers gained more rapidly on common Bermuda grass pastures than they did on Coastal Bermuda grass pastures, when both were heavily fertilized. The increased forage production of the Coastal Bermuda pastures, however, allowed a heavier stocking rate and produced about 100 lb. of steer gain per acre more than the common Bermuda grass.

Yearling steers did not fatten adequately on these pastures. The best system for use of forage produced in this manner seems to be to get the gain with steers and then to use a dry lot feeding period afterwards to increase the salability of that gain.

Some Physiological Effects of Stilbestrol Upon Ruminants—Joseph D. Shroder, University of Tennessee: This was a report on an investigation designed to explain the mechanism of action of stilbestrol. Very good research techniques were applied. Labeled elements were used to determine deposition and differential growth where stilbestrol was used and where it was not used. Body water and blood levels also were investigated. Lambs were the experimental animals, but some studies were made on steers also.

Though some variability in results was evident the author concluded that stilbestrol had a definite anabolic effect, and that this effect was caused mainly by increased activity of the pituitary and thyroid glands in secretion of growth hormones. Steers which received stilbestrol for a much longer feeding period than the lambs did not respond in the same manner. The author speculated that the steers could have grown physiologically accustomed to the stilbestrol and this might have reduced the effect.

Evaluation of Oral and Implanted Stilbestrol and Oxytetracycline for Beef Cattle—W. C. Sherman, Chas. Pfizer & Co., Inc.: Dr. Sherman reported on combined results from about 12 experiments conducted by the Pfizer company and some agricultural experiment stations on the use of oral and implanted stilbestrol, and Terramycin. Average results on stilbestrol showed slightly better growth and feed efficiency with implants and slightly less downgrading with oral stilbestrol. The most logical implant level for steers seemed to be 36 mg. Reports were given showing a range from 12 mg. to 120 mg. For steers, implants averaged about 10% greater increase in gain over oral stilbestrol.

Average results were also in favor of Terramycin and stilbestrol combinations, above either stilbestrol or Terramycin used individually. Terramycin alone averaged about a 6% increase in gain and accompanying feed efficiency. When fed at about 80 mg. per day level in combination with stilbestrol at 10 mg. per day, the steers made an increased gain of about 19%, compared to the controls, with an accompanying increase in feed efficiency of about 11%. No carcass down-grading or reduction in dressing percentage was found. The conclusion that a combination of Terramycin and stilbestrol gave better results than Terramycin or stilbestrol used alone was made by several research workers at this meeting. This was one of the most consistent results reported.

No research worker reported any depressing effect of stilbestrol or Terramycin on carcass grades or dressing percentages. The average of a number of tests indicated that the increased return per steer was about $5 per head where diethylstilbestrol was used but that this increased to about $9 per head where stilbestrol and Terramycin were combined.

Dr. Sherman also reported on results of about 14 pasture trials where stilbestrol implants were used. About 36 mg. seemed to be an adequate level, and average results indicated about 15% increase in gain for steers on pasture.

Stilbestrol and Antibiotics in Low Grain, High Roughage Rations for Fattening Yearling Steers — P. T. Marion, Texas Experiment Station: Results obtained by Marion and coworkers followed generally the conclusions made by Sherman. It is interesting to note that the gains and fattening of steers fed rather low

Shellbuilder increases egg production!
Territories open for qualified brokers.
No wonder Shelly is proud of her painting—It's a statement you can be proud of, too—For when you sell Shellbuilder pure crushed reef oyster shell you know that you are selling the best. And your customers will know that they are buying the best.
Shellbuilder
Shellbuilder Co. • Melrose Building
Houston, Texas

KAFIR & MILO
Largest Dealers in Southwest
MID-CONTINENT GRAIN CO.
Kansas City, Mo.

grain rations with a very high silage intake of about 55 lb. per head per day resulted in very marketable steers at Spur, Texas. Mr. Marion commented that the sorghum silage used in this trial was very high quality silage and thought that this was the secret to success in the use of very high silage rations in fattening steers.

Results obtained by use of 75 mg. Terramycin, 75 mg. of Aureomycin and 75 mg. of ilotycin were very similar. All gave weight increases. The advantage seemed to be more evident in carcass weights than in market weights. In other words the dressing percentage for the cattle which had received an antibiotic were slightly higher. Mr. Marion commented that the ilotycin in the ration seemed to decrease the palatability for steers at first but that this handicap was overcome within a period of about a week. Results agreed with those reported previously that an antibiotic combination with stilbestrol gave an additional weight increase and improved dressing percentage and carcass grade when compared to stilbestrol alone.

Effects of Implanted or Oral Stilbestrol in Steers Fed High Levels of Blackstrap Molasses — C. C. O'Mary, University of Georgia: These steers fed very high levels of blackstrap molasses did not show any significant response to stilbestrol either implanted or fed orally. The steers received feed containing small amounts of cottonseed hulls with about 4 lb. of cottonseed meal and very large amounts of molasses poured over the mixture in the trough. This made the feed mixture rather soupy. O'Mary reported, however, that the steers did not scour on the ration. Up to 30 lb. per day of the ration was consumed. There was no explanation of the failure of these steers to respond to stilbestrol implanted or fed orally.

The effects of Diethylstilbestrol and Oxytetracycline Additions to Drylot Fattening Rations for Beef Cattle — A. R. Parsons, University of Kentucky: Results obtained by Parsons and others at Kentucky were not exactly comparable to average results reported by W. C. Sherman. Though the stilbestrol did increase rate of gain, grade and net return, the increase was much lower than average results expected. A combination of Terramycin and diethylstilbestrol gave a further increase over stilbestrol alone, but the total increase in gain for the combined supplement was only about 6%. These results showed only about half the advantage shown by these same supplements on tests last year.

An important conclusion, however, was that neither stilbestrol nor the combination of stilbestrol and Terramycin resulted in lower grade or lower yield. Carcasses were ribbed, before grading, and were graded independently by three federal graders. One grader had the firm opinion that he could identify carcasses from cattle which had been fed stilbestrol. He was unable to tell the difference, however, when he worked the 40 carcasses, half of which had been treated and half untreated. The cattle which received Terramycin dressed slightly higher and graded slightly higher. This increase in grade was enough to make the lot which received Terramycin fall in the choice grade instead of in the high good grade. Physical separations of the 9-10-11 rib cut into lean, fat, and bone were made. There was no significant difference in the percentage figures obtained.

The author concluded that the antibiotic is paying its way when fed to cattle. He observed that it takes a little longer to get cattle on feed where an antibiotic is included apparently because of a slight decrease in palatability of the feed. The in-

CALUMET CUPS
Now--as Always the Leader

The famous logarithmic curve design . . . permits closer spacing on the belt to increase capacity . . . belt can be operated at much faster speed. Order through your jobber or direct to B. I. Weller Co., 327 South La Salle Street, Chicago, Illinois.

NEW . . . THRIFTY
ScotchOLass

85% MOLASSES POTENCY

DEHYDRATED ON SOYBEAN MILL FEED

- Scotch O Lass gives you all the values of Cane Blackstrap Molasses in a DRY product at rock-bottom cost.
- Always uniform and dependable in quality. No artificial flavoring or raw sugar.
- Scotch O Lass guarantees a blackstrap molasses potency of 85%.
- Provides the sweetness and aroma; the vitamins and trace minerals; and the high energy sugars available only in cane molasses.

MADE BY THE MAKERS OF OMALASS
SEND COUPON FOR COMPLETE DETAILS

VyLactos LABORATORIES, INC.
1901 East Euclid Avenue
Des Moines 13, Iowa

Vy LACTOS LABORATORIES, INC.
1901 East Euclid Ave.
Des Moines 13, Iowa

Please send me complete details and prices on Scotch O Lass.

Name.....
Company.....
Street.....
City.....State.....

DOUBLE YOUR TONNAGE and
TRIPLE YOUR PROFITS!

HONEGGER LEGHORNS
A natural profit-maker with plenty of follow-up poultry feed sales. An exclusive with HONEGGER DEALERS.

BIG "H" FEEDS
Are tested and proved at Honeggers' 600 Acre Practical Test Farm. The superior results of Big "H" Feeds mean repeat orders and repeat profits.

FARM BUILDINGS
Honeggers' complete line of competitively priced, pre-built farm buildings are an extra "exclusive" profit plus for Honegger Dealers.

EQUIPMENT
Honegger Dealers can have equipment shipped prepaid with their cars of feed. Honeggers' full line of modern labor-saving equipment makes an excellent "door opener" for extra feed sales.

For Full Details Write or Phone Collect TODAY!

HONEGGERS'

crease in time required, however, is only three to five days.

The Effect of Grain Feeding and Oral and Implanted Stilbestrol on Performance of Beef Cattle on Winter Pasture—O. E. Sell, Georgia Experiment Station: None of the four treatments—pasture alone; pasture with grain; pasture, grain and oral stilbestrol; or pasture, grain and implanted stilbestrol—had effect on the feeder grade, slaughter grade or carcass grade of the animals. The stilbestrol animals had a slightly thicker covering of fat over the rib eye.

Digestibility was about the same in all four groups. Daily dry matter intake was barely significantly higher in the pasture, grain and stilbestrol implanted group. For the calculated TDN requirements by consumption, the apparent consumption was higher than the required consumption, probably because of the exercise that the animals on pasture had, compared to those that were in dry lot.

There was a significant increase in average daily gain for the first 20 days when stilbestrol was implanted. But there was no significant difference between the two levels, 30 mg. against 45 mg. Altogether the cattle on good pasture show a response of about +.4 lb. per day. Forty-eight milligram implant followed by 12 mg. was better than giving the oral dosage of stilbestrol. The optimum dosage is still not known, and this needs more work. Better results were obtained on pasture than in dry lot with the stilbestrol feeding.

Feeding Stilbestrol to Steers on Pasture—W. G. Kirk, Florida Range Cattle Experiment Station: Stilbestrol treated animals gained at a slightly greater rate. There was considerable grade increase in the animals, but the carcass percent was about the same. On common Bahia and Argentine Bahia, there was actually very little difference over a 330-day period when stilbestrol was given to the animals.

The Effects of Stilbestrol Implants on Performance of Steers Fattened on Grazing Followed by Drylot Feeding—W. C. McCormick, Georgia Experiment Station: In a trial set up over the first 56-day period where one group received 30 mg. stilbestrol and the other two groups received none, the stilbestrol group gained approximately 30% faster than the other two. In the second 56-day period the group that had received 30 mg. received an additional 30 mg. implant, the second group received a 30 mg. stilbestrol implant, and the third group served as control. Here there was a 10% decrease in the additional 30 mg. implant group under the control for the second period. However, the group receiving the 30 mg. that had not had any before was 10% greater than the control group. Overall for the 112 days, the group that had received 60 mg. total was 10% above the control, and the group that had received 30 mg. was also 10% over control. All the carcasses were in the low good grade and the dressing percent was about the same. Those animals that received the 60 mg. showed some side effects such as pawing and bellowing, and this 60 mg. level was considered to be too high for the 112-day period.

Effects of Stilbestrol and Phenothiazine on Growth Rate of Suckling Calves on Pasture—J. L. Carmon, University of Georgia: The phenothiazine that was used was a 40% drench, and it was used at the rate of 3 oz. for calves under 200 lb., 3½ oz. for those 200 to 300 lb. and 4 oz. for those over 300 lb. There was no appreciable effect on the grubs in the animals—in fact, grub counts averaged 33 in the control group, 34 in the phenothiazine, 26 in stilbestrol and 35 in the combination treatment. There was a tendency for the males to have more grubs than the females. There was a decrease in the average daily gain over the two-year period for the phenothiazine group. This was not explained. Texas tests have indicated no advantage of treating suckling calves on a high plane of nutrition with phenothiazine. Stomach worms may be present, but they don't seem to do much damage.

The Effects of Feeding Diethylstilbestrol on Reproduction and Feed Lot Performance of Heifers—T. M. Means: The conception rates for the different lots and the average number of services for conception were given. The services for conception were satisfactory for all groups except the one which received 100 mg. of stilbestrol daily, and the services for conception here were 3.6, which is about double the others. This high level also had some heifers in it that showed some secretion; however, no vaginal prolapse was found in these animals as had been reported previously in some of the work with sheep. The relaxed loin and high tail head were noticed in this group. There was some of this also in the 20 mg. group. No side effects were observed for the animals injected at 5 to 20 mg.

Effect of High-Level Oxytetracycline on the Shipping Fever Complex in Beef Cattle—Dr. W. C. Sherman, Chas. Pfizer & Co., Inc.: Dr. Sherman brought out that treatment before shipment was impractical, especially from an experimental standpoint. Pellets were used, and they found that pellets eliminated some of the palatability problems in feeding oxytetracycline to the animals.

From trials conducted in commercial feedlots, data have been obtained to show that high-level oxytetracycline (Terramycin) is effective in the prevention of shipping fever complex in beef cattle and in the treatment of the early stages, Dr. Sherman reported.

The pellets in the experimental work contained ¼ gm. of the antibiotic per pound. The pellets are fed at a rate of 4 lb. per day, which is the equivalent of 1 gm. of oxytetracycline, to animals weighing between 450 and 750 lb. Those weighing over 750 lb. get 5 to 6 lb. per day, and those weighing 300 to 450 lb. receive 2 lb. per head per day.

Pure whey supplement for your feeds:

KRACO

The fresh-dried whole whey that's naturally sweet

- no neutralizers added to upset milk mineral balance
- no fermentation to reduce high lactose content*

** Kraco is guaranteed at least 65% lactose—runs are usually between 70-72%*

Kraco is made by Kraft—the country's largest producer of raw whey.

In processing this important feed supplement, Kraft uses the whey from low-acid cheese—and dries it within hours after it is drawn from the cheese vats.

For these two reasons, Kraco is *naturally* fresh, *naturally* sweet. Acid content is guaranteed at not more than 3.5%.

When you supplement your feeds with Kraco, you are using *pure* whey. Nothing has been added, nothing taken away.

Kraco contains all the whey nutrients, including the valuable whey factor, lactose (minimum 65%), milk protein (12%, mostly lactalbumen), milk minerals and B complex vitamins.

Ask the Kraft Man for full particulars.

KRACO *is a Kraft Product* / *Order from* KRAFT FOODS COMPANY
500 Peshtigo Court, Chicago 90, Illinois

Store It With Safety!
ROSS
STEEL GRAIN TANKS

Ross steel tanks are prefabricated and can be placed in batteries or in single rows to fit individual requirements. Storage capacities are available to meet any requirement!

WRITE TODAY FOR CATALOG

ROSS EQUIPMENT CO.
SPRINGFIELD, OHIO

Whatever your Feed Fortification needs

YOU CAN ALWAYS DEPEND ON

Dawe's

ARSONIC ACID
NIACIN
STABILIZED A
RIBOFLAVIN
BHT
VITAMIN B_{12}
PROCAINE PENICILLIN
B-COMPLEX MIXES
DRY D_2
MINERAL STABLE D_3
PANTOTHENIC ACID
CHOLINE CHLORIDE

Fortify with Dawe's Choline Chloride. Make sure choline is not a limiting factor in the performance of your poultry and swine feeds. It is essential to vital body functions, to efficient feed conversion and overall health and productivity throughout the life cycle.

The trend is to increased choline fortification of modern-day feeds. Choline levels formerly adequate may not be sufficient for today's high-energy feeds. More Dawe's Choline Chloride is being used by the feed industry than ever before.

Dawe's Choline Chloride 25%: A dry feed supplement containing 25% choline chloride on powdered cereal carrier. Particle size is ideal for thorough dispersion. It is completely free-flowing, non-sticky and handles well in either batch or continuous mixing operations.

Dawe's Choline Chloride 70%: An aqueous solution . . . water clear and non-corrosive . . . for those who prefer this concentration of choline chloride and are equipped to supplement their formulas with liquids.

Dawe's, a primary producer of choline chloride, exercises complete quality control all the way from the raw components of manufacture to the finished product. It meets the highest standards of potency, purity and stability with generous safety margins.

For all individual vitamins and related factors, or for combinations custom-blended and packaged to your specifications, consult Dawe's—fortification specialists serving the feed industry exclusively.

Dawe's Laboratories, Inc.

4800 S. Richmond St., Dept. FS-37 — Chicago 32, Illinois

Offices and warehouse stocks: Belgium—13, Courte rue des Claires, Antwerp. Mexico—Sierra Leona 755, Mexico 10, D. F.

☐ Please send me complete information about Dawe's Choline Chloride

☐ Please send information on the following products:

NAME

FIRM

ADDRESS

CITY & ZONE STATE

WORLD'S OLDEST AND LARGEST SPECIALISTS IN VITAMIN PRODUCTS FOR FEEDS

Feed Men, Feeders, College Experts on Colorado Program

By DR. ROBERT E. MORENG
Head, Poultry Department
Colorado A&M College

FORT COLLINS, COLO. — The first Colorado Formula Feed Conference was held in Fort Collins on Feb 22. This conference was sponsored jointly by the Colorado Grain, Milling & Feed Dealers Assn., the Midwest Feed Manufacturers Assn. and Colorado A&M College.

A crowd of more than 150 registrants filled the 'Green Room' of the Student Union Building. An informal mixer or get-together was held by the feed men and college personnel at the Northern Hotel on Thursday evening preceding the conference.

The conference was opened by Lloyd Larson, executive vice president of the Midwest Feed Manufacturers, discussing the topic of "Why We're Here." Mr. Larson mentioned the importance of meetings of this type and emphasized the benefits reaped by the feed men from an open meeting with college personnel and producers.

The meeting was designed to bring together on each panel one producer, one representative of a feed mill, and one representative of the college nutrition staff. The meeting consisted of three different panel discussions—on beef cattle nutrition, dairy cattle feeding and poultry nutrition.

BEEF CATTLE: The first panel of discussion, opened by moderator, Dr. Sherman S. Wheeler, dean and director of the College of Agriculture, was directed first toward the role of antibiotics in beef cattle nutrition.

Dr. O. Burr Ross of Gooch Feed Mills, Salina, Kansas, was the first speaker. He discussed the effects of environment and the expression of response of various animals to antibiotics. He indicated that conditions under which animals are raised influence whether or not the producer will get a response from antibiotics.

He cited examples of considerable variation in results, some showing large increases in feed savings as well as increases in growth, while other studies will show no savings. Dr. Ross said the greatest savings accomplished from the addition of antibiotics to most rations was that of less feed consumed per pound of gain. He advised studying antibiotic response on the basis of pay-weight to pay-weight in the feed lot or on the range, and suggested continued study of antibiotic response.

He closed his talk by summarizing the various environmental factors which can affect the response of cattle to antibiotics. He said that more work is needed to diagnose some clinical diseases and their effects on response to antibiotics and the most appropriate levels to be fed under varying conditions. He cautioned the audience to keep an open mind where antibiotic feeding is concerned and not to be critical if some antibiotics do not give response in one case where definite response may be obtained under different conditions.

Feeder's View

Louis Bein, Jr., of Berthoud, Colo., presented the point of view of the farmer-feeder. The kind of livestock that a farmer-feeder buys and the manner in which he feeds them should be the result of his cropping program, he said. He gave illustrations to show that there has been and will continue to be a steady change and modification in the feeding program of livestock.

In his talk, "We Need Tailor-Made Supplements" Mr. Bein told feed manufacturers of the opportunity to provide a custom made supplement to complement a particular feed so that economical gains may be obtained by the customer. The supplement should include that which is needed and no more.

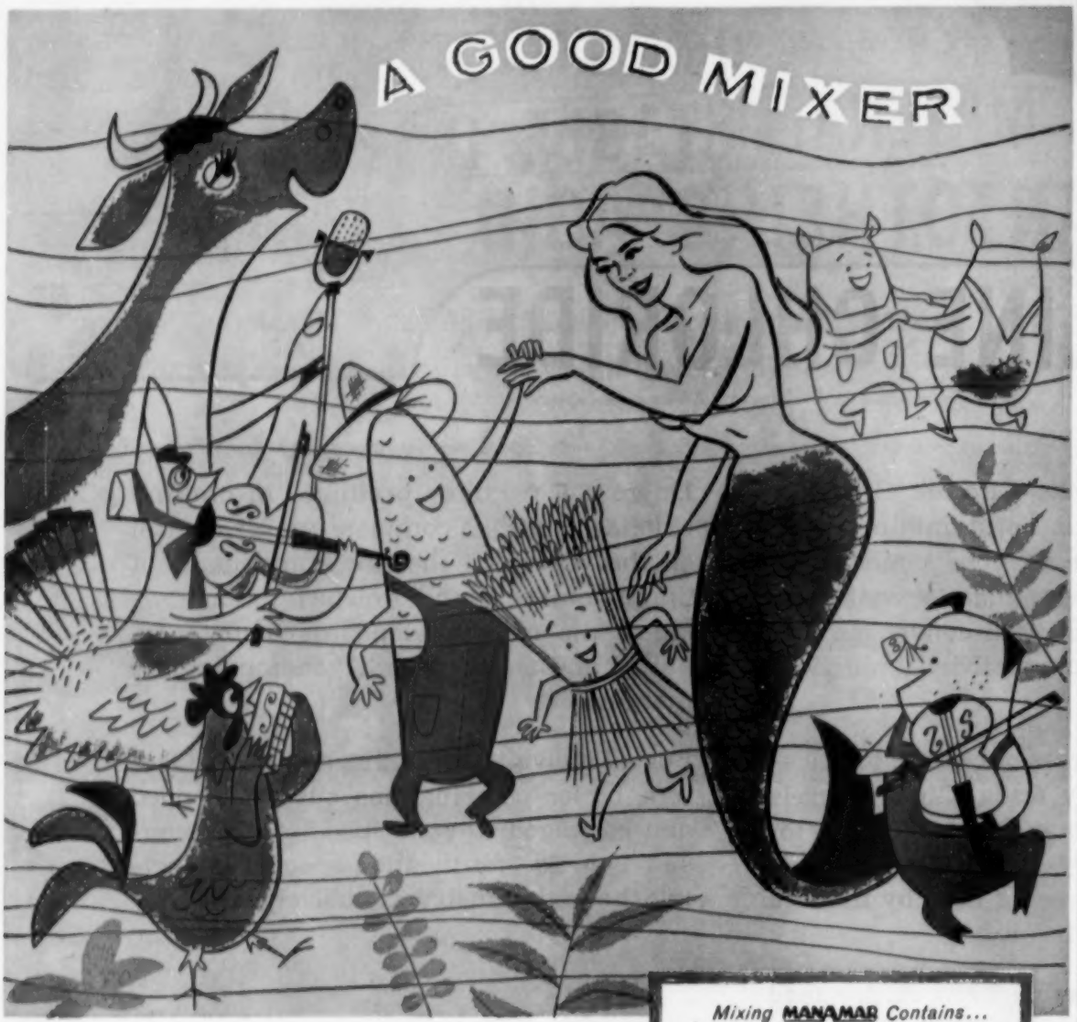
The answer to the complicated nutritional problem in the past, Mr. Bein said, has largely been solved by the feed industry by furnishing a salesman with a "shotgun" product. This product, he stated, in many cases is designed not only for many different rations but also for many areas. "We must become more informed and more specific," he said.

Range Nutrition

Dr. Lloyd Washburn, head of the animal husbandry department at Colorado A&M discussed "Range Nutrition Problems," pointing out that in Colorado 50% of all cattle that finally reach the consumer's table start out in the range country. In addition, 75% of all the sheep and wool come from the range, and some of the things that happen to animals early in their life on the range will determine to a large extent what will happen to them later in the feed lot. Environment in feeding livestock is important, he said, and the main problem for the range man is the weather. In the past four or five years this stress has become a very important factor.

All the big problems on the range tie in with grass, Dr. Washburn said, and the more progressive ranchers are trying new methods of cultivation and water control and many other types of management to improve their grass land. No matter how good a grass the rancher has, he said, the big problem is supplementation during a large part of the year. Research at Colorado A&M shows that out of a 12-month period there are four months when the grass stand will provide sufficient protein and phosphorus.

At one time the vitamin A picture was important, Dr. Washburn said, but experience in recent years has shown that vitamin A deficiency on the range is rare, with only about four months out of the year when cattle would need supplementation



Modern MIXING MANAMAR

Successful feed manufacturers have found that it pays to mix with MIXING MANAMAR. Your local grains and protein concentrates supplemented with MIXING MANAMAR are "Sea Powered" for tomorrows' production goals. MIXING MANAMAR is a rich natural source of Vitamin B_{12}, other B-complex factors... growth factors still unidentified... essential trace minerals. Easily incorporated into any formula, MIXING MANAMAR provides all important nutrients for improved production and fast growth. You'll discover that MIXING MANAMAR is a *good mixer* – put "Sea Power" to work for you.

FOR COMPLETE DATA AND PRODUCT ANALYSIS... WRITE

PHILIP R. PARK, INC.
FEED ENGINEERS

Manufacturers of MANAMAR *"Sea Power" Supplements*

Berth 42, Outer Harbor, San Pedro, California • 145 West First Street, Dubuque, Iowa

Mixing MANAMAR *Contains...*

- Dehydrated Kelp
- Condensed Fish Solubles (Lassen Process)
- Fish Glandular and Liver Hydrolysate
- Blended Fish Meals
- Ribo Fish Flour
- Alfalfa Meal
- D Activated Animal Sterol
- Antibiotic Feed Supplement
- Choline Chloride
- Riboflavin Supplement
- Manganese Sulphate
- Calcium Pantothenate
- Niacin
- Cobalt Carbonate

Investigate these MANAMAR *Products*

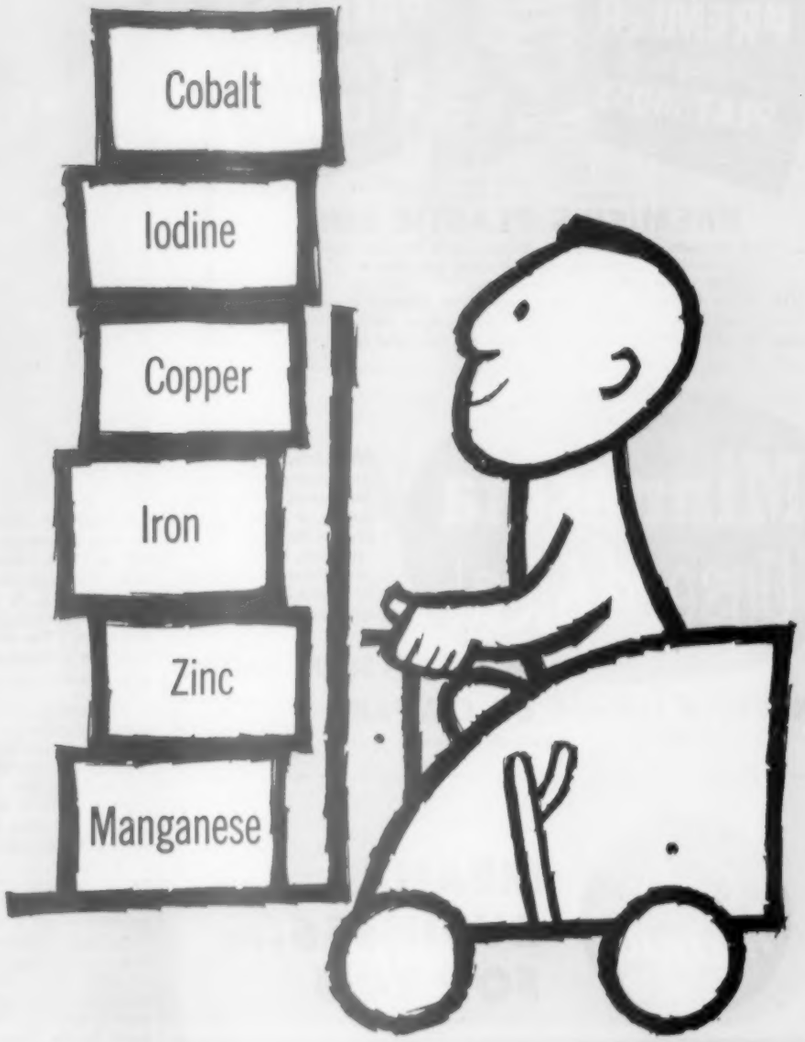
- Solufat
- Manaperk
- All-Purpose 40% Manamar
- Manamar–24%
- Cattle Manamar
- Horse Manamar
- Maximar
- Neptune Mineral Concentrate
- Super Neptune Mineral Concentrate
- Manasol
- Alsol
- Feedsol
- Fortified Condensed Fish Solubles

Triumph
CORN SHELLERS
CLEANERS and COB BLOWERS
for GRAIN ELEVATORS and FEED MILLS
WRITE FOR FULLY DESCRIPTIVE CATALOG

THE C. O. BARTLETT & SNOW CO.
6249 HARVARD AVE. • CLEVELAND 5, OHIO

SALT

is the logical carrier of trace minerals in your feeds



Distribute trace minerals evenly in your feeds. Save time, avoid error in mixing. Use Morton Trace-Mineralized Mixing Salt.

As you know, most feed formulas require salt in regular amounts. Where trace minerals are used, salt provides the best carrier for even distribution of these vital elements throughout the feed. With Morton Trace-Mineralized Mixing Salt, you add both the correct amounts of salt and trace minerals in one simple operation. This saves you time and money—avoids the possibility of human error in formulating your feeds with trace minerals.

With more than 25 years' experience in compounding salt and trace minerals, Morton Salt Company is the logical source of salt and trace minerals. Both Morton Trace-Mineralized and Iodized Mixing Salts are manufactured to meet your various feed requirements. Their trace mineral content is guaranteed. And that Morton guarantee helps guard the analyses of your feeds.

Best of all, Morton uses all the top quality compounds that research has shown are the best nutritionally available sources of trace minerals: **Cuprous Iodide** (patent no. 2,772,167), **Cobalt Oxide, Copper Oxide, Manganoferro Phosphate, Ferrous Carbonate, and Zinc Oxide.**

Morton's nation-wide distribution enables you to get Morton Mixing Salts anywhere in the United States.

In addition to Trace-Mineralized and Iodized Mixing Salts, Morton also makes an extra-free-flowing Special Mixing Salt.

Mail coupon for information on Morton Mixing Salts

Morton Salt Company, Dept. F-LC-316
120 So. LaSalle Street
Chicago 3, Illinois

Name_____

Company_____

Address_____

City_____

County_____ State_____

MORTON MIXING SALTS

Trace-Mineralized Mixing
Iodized Mixing
Special Mixing

PREMIER'S PLASTIC LINE

- The fast-selling packages (8 sizes) with the high mark-up
- Colorful, eye-catching—easy to store, sell, deliver
- Moisture-proof—clean—no spillage

FOR EXTRA PROFITS sell Premier Peat Litter. Absorbs many times more!
Any combination can be shipped in one car. Send for prices and details.
PREMIER PEAT MOSS CORP., 525 FIFTH AVENUE, NEW YORK 17, N. Y.

Minnesota Linseed Meal

Manufacturers and dealers everywhere use Minnesota Brand meal, pellets or grits. *Extra protein* sharpens appetites, boosts production. Wire, write or phone for latest quotes.

There's a **QUALITY DIFFERENCE**

MINNESOTA LINSEED OIL COMPANY
25—44th Ave. N. E. • Minneapolis 21, Minn.
SUNSET 8-9011

Calf Manna MEANS BUSINESS... FOR YOU

Big growthy calves to four months for $22
Big growthy calves to four months for $25
Big Growthy Calves —early rumen action with Calf Manna and Suckle
Big Growthy Calves with Calf Manna Creep Feeding

Advertisements like the ones shown above reach readers through practically every farm paper in the country. More than 7½ million selling messages reach feeders every month...and Calf Manna dealers are the ones who get the sales and profits. If you want Calf Manna to mean more business for you, fill in and mail the coupon below. Get on the Albers band wagon today.

ALBERS MILLING COMPANY, Dept. F37 CLIP AND MAIL TODAY!
1016 Central St., Kansas City 5, Mo.

☐ I'd like to know more about how Calf Manna and Suckle can mean more business for me.
☐ I have a mixer. Give me details on Albers Lab-Mix Program.

Name _____
Firm Name _____
Address _____
Town _____ State _____

COLUMBUS FEED CLUB OFFICERS—New officers were elected recently for the Columbus, Ohio, Feed Club. Shown together after the election are, left to right, bottom row: C. C. Welch, secretary; Paul Steckman, co-chairman; Curtis Kunz, chairman. Second row, left to right: Henry S. Pruyn, L. J. Dill and L. S. Watson, directors. Other officers and directors not shown are E. V. Roush, treasurer, and W. E. Farley, O. E. Thomas and Max Latham, directors. The club meets the first Friday of each month at the Fort Hayes Hotel in Columbus.

of vitamin A. Cattle build up sufficient reserves to carry over vitamin A for a considerable length of time.

Dr. Washburn emphasized that protein has not been given the attention that it deserves. It is important to get a high quality protein to the animals as well as a blending of different types of protein supplements, he said. "We have found that alfalfa hay or sun-cured alfalfa meal or pellets are a wonderful thing."

DAIRY CATTLE: The panel on dairy cattle nutrition was moderated by Prof. E. K. McKellar, head of the department of dairy husbandry. First was a talk on "Modern Calf Nutrition" by Dr. Chase Wilson of Dannen Mills, St. Joseph, Mo.

Dr. Wilson traced the path of modern calf nutrition, starting from birth to about four months of age. During this period, he followed the feeding program, emphasizing the importance that the calf start off with milk from the mother so that the colostrum is made available. He pointed out that there is high vitamin A content in the milk, and the mild laxative effect on the calf is beneficial toward the proper function of the digestive system. Much of the immunity toward early invasion of certain disease organisms is accomplished by products from the colostrum.

Dr. Wilson outlined some of the important nutrients which must be contained in a milk replacer. A good milk replacer, he said, should be fortified with animal fat as well as vitamins A and D, and it should contain antibiotics. The calf starter which follows this in a sound feeding program should be adequate in protein as well as energy. He emphasized the importance of a well-balanced feed that will give efficient gains in this growing period of the calf. Along this line, he pointed out that dairying is moving into the hands of more specialized men doing more specialized jobs. As a result, he stated, they are doing a better job of feeding and calf raising than formerly was done in many of the areas throughout the country.

The form in which calf raising is

(Continued on page 72)

DEHYDRATED ALFALFA...

YOUR PLUS FOR PROFIT

Boost the value of your feeds with **Dehydrated Alfalfa.**

Dehydrated alfalfa gives you high quality protein, all important vitamins A, K, E, and B-Complex, plus minerals in a better balance than any other one feed ingredient.

PLUS—

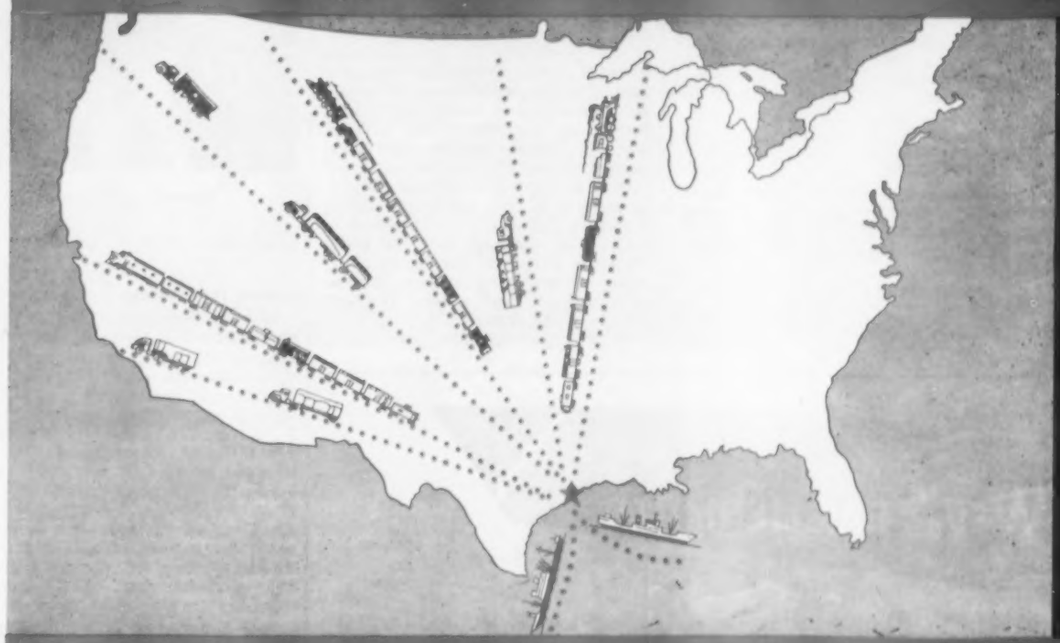
Xanthophylls for better pigmentation.

Unidentified Growth Factor(s) for growth stimulation.

AMERICAN DEHYDRATORS ASSOCIATION
430 Board of Trade Kansas City, Mo.

ADA American Dehydrators Association
PASTURE IN THE BAG

Better SERVICE



WITH CORONET DIKAL

Texas City is the only dicalcium production point west of the Mississippi River. As a consequence, all feed manufacturers in the western half of the United States enjoy better service and geographical advantages by using Coronet DIKAL.

Coronet Dikal is 18% analysis, all of which is biologically usable phosphorus. And Coronet's reputation for quality and service assures the kind of product you want, *when you want it . . . and in any desired quantities.*

Let us figure the cost of Dikal delivered to your plant

DIKAL
CORONET DICALCIUM PHOSPHATE

DIKAL is produced by Texas City Chemicals, Inc. under the management of

Coronet Phosphate Company

NORFOLK 1, VIRGINIA

A DIVISION OF SMITH-DOUGLASS COMPANY, INCORPORATED

SMITH DOUGLASS SD

PREMIXING MICRO-INGREDIENTS

By Robert C. Wornick
Chas. Pfizer & Co., Inc.

EDITOR'S NOTE: An extensive presentation on premixing micro-ingredients has been prepared by Robert C. Wornick, head of the chemical laboratories, agricultural research department, Chas. Pfizer & Co., Inc., Terre Haute, Ind. The original paper was presented at the Midwest Feed Production School, sponsored by the Midwest Feed Manufacturers Assn., in Kansas City. Mr. Wornick has now condensed the material into two articles, the first of which is the accompanying article. The second will appear in next week's Feedstuffs. In the first article, he deals with active ingredients in premixes, diluents and the use of tracers for determining proper mixing. In the second article, he will cover equipment, actual premixing operations and quality control. The complete paper on premixing — including additional tables, charts and an extensive bibliography—has been prepared as a 40-page booklet, which is available from the author, Agricultural Research Department, Chas. Pfizer & Co., Inc., Terre Haute, Ind. Mr. Wornick has been with Pfizer since 1942, except for World War II service, and has been in the agricultural research department for five years. A chemical engineer, he attended Columbia University and other schools and is a graduate of the Massachusetts Institute of Technology. He is a member of several chemical and other technical societies.

v v

Introduction

The past decade has witnessed remarkable advances in our knowledge of animal nutrition and veterinary medicine. These advances have resulted in the development of many new feed additives which improve rate of gain and feed conversion and which combat diseases. These additives, used in extremely small percentages, are commonly called "micro-ingredients."

To obtain current data on methods and problems of micro-ingredient premixing, a limited survey was conducted with the approval of the program committee of the Midwest Feed Production School. Fifty-five feed manufacturers were consulted either personally or by mail and asked for information and suggestions. Many manufacturers of mixing equipment, and of tracers and colors, were also contacted. The average over-all response to these mail questionnaires was 67%, indicating widespread interest in this vital subject. A study was then made of existing technical literature. To these data was added the experience of Chas. Pfizer & Co., Inc., gained over the years in preparing vitamin, antibiotic, hormone and mineral products for the feed industry.

The present report constitutes a compilation of data from these various sources.

Robert C. Wornick

Active Ingredients

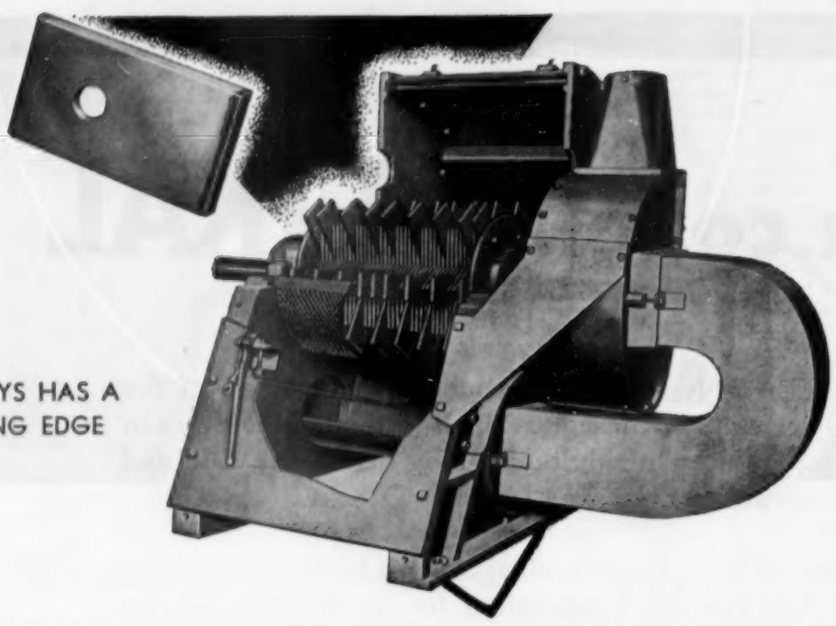
The micro-ingredients in use in manufactured feeds today fall under such categories as vitamins, antibiotics, minerals, drugs, antioxidants, amino acids, unidentified growth factor sources, enzymes, pigments, preservatives, flavors and others. Almost 100 different micro-ingredients are included in these combined categories. There are also many suppliers of each additive. As a result, the average feed manufacturer is faced with the problem of selecting from several hundred commercially available products, the 20 to 30 micro-ingredients which he requires.

Selection: After determining just which additives are required for a particular formula, the feed manufacturers must decide which commercial products should be purchased to supply these micro-ingredients. Many factors should enter into this latter decision, including the suppliers' reputations, product composition and potency, physical properties, stability, performance in vivo, palatability, price, etc.

Supplier: There is no better insurance than purchasing from a reliable micro-ingredient manufacturer. This provides the feed manufacturer with a ready source of ingredient manufacturing experience, useful labora-

(Continued on page 57)

W-W HAMMERMILLS



ALWAYS HAS A CUTTING EDGE

THE QUALITY AND THE ECONOMY FOR LOW COST GRINDING

You can have a W-W Hammermill to fit your capacity requirements or have it made to your exact specifications. But, regardless of which W-W you get, you will be getting more for your money than with any comparable make. W-W's exclusive Star cylinder requires less horsepower yet it is so powerful that you don't even have to pregrind ear corn. Its performance is smooth, virtually vibrationless. W-W hammers, the original Tungsten Carbided hard surfaced hammers, will last longer than any other hammer and will maintain a cutting edge for its *entire* life. Standard equipment in W-W mills, best for replacement.

Send for complete catalog and quotations. Also send samples to be ground at no obligation. Ask about convenient time payment plan.

W-W GRINDER CORP.
DEPT. 311 WICHITA 4, KANSAS

Laboratory Control

Assures Constant Purity of CCC Calcium Carbonate

Calcium Carbonate Co.

520 South 4th St., Quincy, Ill.
Box 409, Carthage, Mo.
325 W.O.W. Bldg., Omaha, Neb.

WHAT'S NEW WITH VICTOR THIS MONTH?

VICTOR PLANNED PROMOTIONS STRONG ADVERTISING

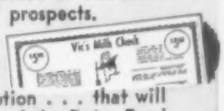
will make you the **Biggest FEED DEALER** in TOWN!

THESE ARE JUST A FEW:

GRAND OPENINGS

A Treasure Chest idea that will crowd your store with hundreds of customers and real "live wire" prospects.

MILK CHECKS



A Dairy Feed promotion . . . that will bring you the cream of the Dairy Feed business in your expended area.

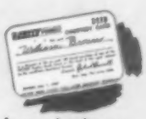
HOG FEED MAILER

. . . that gets buyers' attention and has proved many times that it builds Hog Feed volume in a great BIG way.

CREEP FEED PROMOTION

Tells cattle feeders how they can save money and still "top the market" with their healthy calves.

POULTRY FEED COURTESY CARD PLAN



Offers poultry raisers an important savings on VICTOR Poultry Feeds — and costs YOU nothing, absolutely nothing.

CATTLE FEED CONTEST PROMOTION

Saves cattle feeders money on Cattle Feeds — you make the full profit — and it carries a big prize incentive, too.

EVERY MONTH - 12 MONTHS A YEAR - VICTOR DEALERS HAVE VICTOR PROMOTIONS . . . THAT BUILD STORE TRAFFIC - THAT SELL MORE OF EVERYTHING . . . IN VICTOR DEALERS' STORES

Here are just a few of the exciting VICTOR PLANNED PROMOTIONS that are making new VICTOR feeders by the scores in area after area. VICTOR year 'round PLANNED PROMOTIONS . . . PLUS VICTOR consistent and dominating advertising in leading Farm Papers, Feeder Publications and over the Radio — are a customer traffic-getting combination that offers VICTOR dealers the greatest sales-building and profit-making opportunity in years! There's *nothing — absolutely nothing* — like it in the entire feed industry.

AND WITH VICTOR FEEDS *YOU SELL*

COMPLETE FEEDING PROGRAMS

When you sell VICTOR FEEDS — you sell MORE than VICTOR proved-on-the-farm QUALITY FEEDS.

You sell *complete feeding programs* — developed by foremost poultry, hog and cattle feeding authorities.

You furnish your VICTOR feeders with the latest research and information on poultry, hog and cattle breeding, health control, management procedures and feeding. The results . . . are VICTOR feeders that make extra profits — that are VICTOR feeders from start to finish — that tell their friends to buy VICTOR FEEDS from YOU!

✓ FILL IN THE COUPON BELOW . . . NOW!

Get the BIGGEST news in the feed industry today. Learn why VICTOR dealers are establishing new highs in sales and profits. What they are doing — YOU CAN DO . . . AS A VICTOR DEALER. So — mail the coupon — NOW. Of course — there's no obligation.

THE CRETE MILLS

LOOK TO VICTOR

FOR THE BIGGEST MONEY-MAKING FEED OPPORTUNITY IN YEARS!

A Division of Lauhoff Grain Company CRETE, NEB.

VICTOR FEEDS

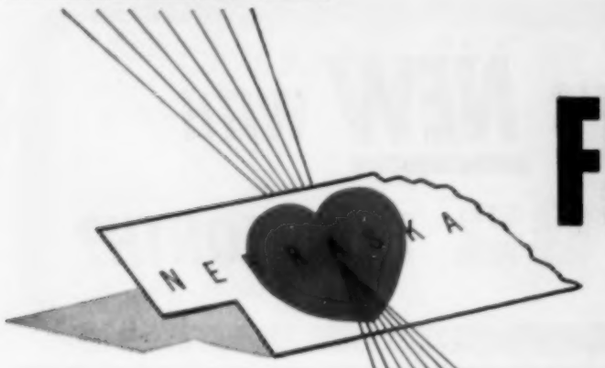
THE CRETE MILLS, CRETE, NEBRASKA

Gentlemen: Please send me more information about your VICTOR sales-building, profit-making feed dealer program.

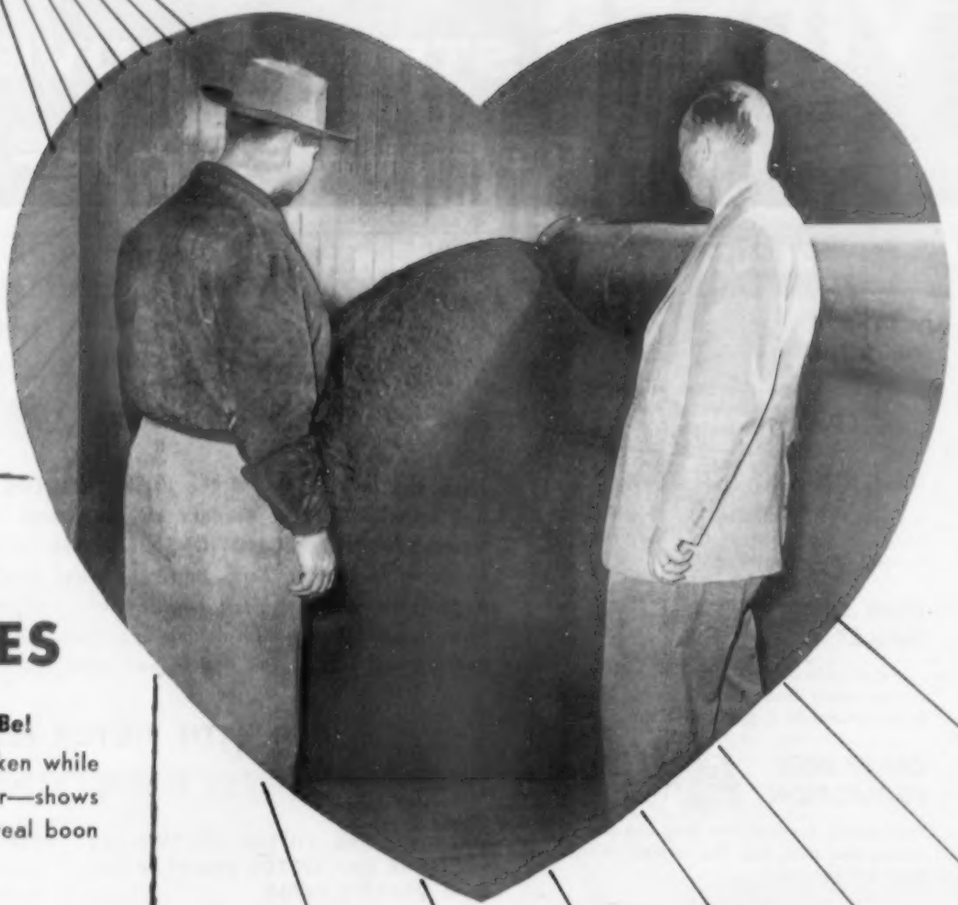
NAME _____

CITY _____

STATE _____



FROM THE HEART OF ALFALFA-LAND

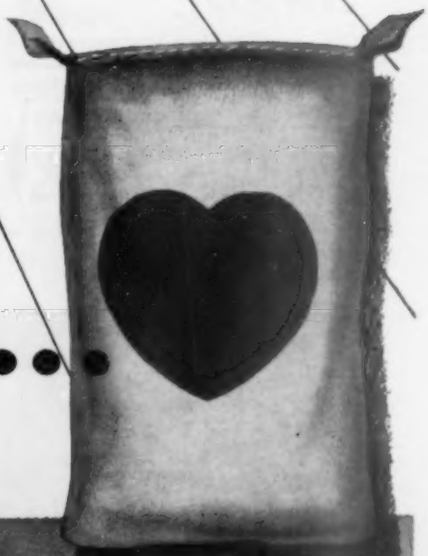


Merry Mixer GREENULES

Dust-Free as Dehy Can Be!

This action photo—actually taken while loading bulk meal into a car—shows complete absence of dust. A real boon to YOUR production!

TO THE HEART OF YOUR PRODUCT...



"AS RICH A DEHY AS YOU CAN BUY!"

CONSOLIDATED BLENDERS, INC.

Dept. F-3, FREMONT, NEBRASKA

Phone: PARK 1-9000

tory data, current research findings, detailed animal studies, meaningful plant-scale test results and good sales and advertising service. In addition, a dependable supplier will incorporate only high-quality ingredients obtained from carefully controlled manufacturing processes. This insures uniform product performance from batch to batch, both in the plant and in the animals. A standardized overage will also be provided for every micro-ingredient, based on extensive data from laboratory, plant, animal and field testing. In purchasing micro-ingredients, some companies emphasize pricing without adequately considering the value of these other factors. We have all seen the time, in day-to-day operations, when some expert advice on one or more of the above subjects would have been really valuable. It is to your advantage to insure that all of these additional services are included in the purchase price.

Potency: An important decision concerns the choice of concentration of a micro-ingredient. Many feed manufacturers now prefer higher potencies in order to take advantage of favorable purchase pricing. Premixes are then prepared in the mill using one or more diluents which are common to the final feed products. This affords considerable savings through the selection of available lower-cost diluents. Multiple component premixes can be prepared which are tailored to the exact needs of a particular formula. This eliminates the added expense of excessive levels of one or more active ingredients which may be present in standard packaged premixes used for a number of different feed formulas.

However, many problems are inherent in the premixing of concentrated micro-ingredients. Efficient premixing equipment, rigid inventory control and thorough laboratory testing are essential. Most large and medium-size manufacturers are equipped and staffed for adequate premixing.

Most smaller operators cannot apply the necessary laboratory controls and therefore prefer to purchase custom-mixed combination products, while most larger-scale manufacturers seem to favor premixing the various higher potency micro-ingredients themselves.

Particle Size: In selecting a commercial source of a micro-ingredient, one must consider carefully the question of particle size. As the usual low levels of supplementation, there are very definite upper limits on particle size if one is to insure optimum distribution in the finished feed. Consider the average daily feed intake of young broiler chicks. Average data on straight run Nichols White Crosses show a 70-gram intake for the first week of life. Only after about two weeks of age does daily consumption begin to exceed 1 oz. per bird. Such minute intakes demand uniform dispersion of all ingredients. In a paper by Bloom and Livesey, a few simplifying assumptions have been made and graphs have been constructed which indicate optimum average particle sizes for levels of addition from 10 mg. to 10 lb. per ton. Table 1 is a tabulation taken from their three graphs.

Micro-ingredient sources from different suppliers often vary widely in average particle size. This variation can markedly influence feed performance unless adequate attention is paid to this factor. It must be realized that it is not economically possible to produce an ingredient having all particles identical. A normal distribution around some average size always exists. Similarly, in the finished feed, the average number of micro-ingredient particles per gram will vary from some mean value depending on the extent of separation after mixing and on mixing efficiency. An appropriate overfill, or use of a slightly smaller average particle size, is often indicated for these reasons.

It is sometimes thought that active ingredient distribution in the feed will be satisfactory as long as a plant premix, or a purchased custom mix, is sufficiently low in potency. The desirability of having sufficient bulk or volume is often mentioned without regard for active ingredient particle size. The opposite extreme is the use by some manufacturers of only finely powdered ingredients. A stand-

(Continued on page 60)

NOW ... ANIMAL FAT IN DRY FORM FOR YOUR FEED MIXING!

STANDARD FatEnriched INGREDIENTS IN MIDDS IN HOMINY FEED

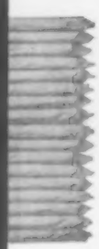
Your formulas can now include stabilized animal fats. STANDARD *Fat-Enriched* Ingredients are a scientific blend of high quality animal fats on a dry carrier with a safe, proved anti-oxidant which stabilizes fat and protects fat-soluble vitamins in the feed.

STANDARD *Fat-Enriched* Midds or STANDARD *Fat-Enriched* Hominy Feed will enable you to add stabilized animal fat in dry form to your feed. No special equipment needed.

They are economical, too, as expensive handling of liquid tallow and grease is avoided. Both packed in 100 lb. burlap bags for prompt shipment, in carlots, truck lots or split cars. Write or phone STANDARD for today's prices and samples.

STANDARD FEED & FERTILIZER, INC.
Affiliate of Milbrew Inc.
3456 North Buffum St., Milwaukee 12, Wisconsin EDgewood 2-6204

stacks solidly! easier to grip!



Thousands of tiny interlocking grooves are pressed into the tough kraft outer-wall of the new Cromwell STAK-GRIP bag . . . by an embossing process originated by Cromwell. Result: *built-in* two-way slip-resistance with no reduction in strength!

In over a year of actual use, the Cromwell STAK-GRIP bag has proved these outstanding advantages:

1. **cuts breakage losses** due to slippage.
2. **increases safety** because bags stack solidly.
3. **helps sales** because both dealers and farmers like the flexible, easy-to-handle surface and the extra-brilliant printing.

for the latest and best in feed bags

brightest, strongest printing you've ever seen on a multi-wall bag!

Printing before embossing gives a 3-dimensional effect to the printing, adds amazing brilliance and intensity, and puts a real merchandising wallop behind your brand.

For a free sample and complete information, write on your business letterhead to Mr. O. N. Johnson.

Ask Us to Quote

Vegetable and Animal Proteins Millfeeds, Alfalfa Meal, Molasses and other Feed Products

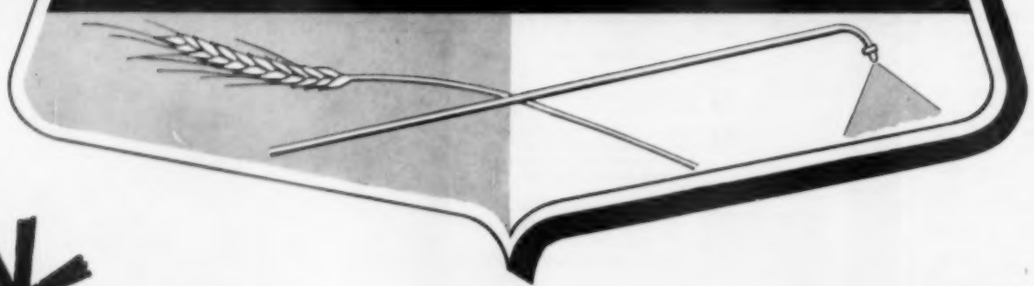
Telephone—GR 6122 Teletype—KC 370

HERRING Sales
BOARD OF TRADE KANSAS CITY, MO.

Douglas®

TETRAKOTE®

"Guardian of America's Grain"



* A full years protection for your stored grain for less than 2¢ a bushel

JUST ONE APPLICATION! EASY-TO-APPLY!

DOUGLAS TETRAKOTE

The Modern, Liquid Grain Protectant

for Stored Grain and Seeds

TETRAKOTE is a liquid grain protectant that is applied to grain as it goes into storage. It forms a residual deposit on the kernels of the grain that kills insects if they try to attack the grain. TETRAKOTE is *not* just a means of killing bugs once they have infested the grain and have caused their costly damage. TETRAKOTE protects against insect attack before it starts!

TETRAKOTE REALLY GETS THE JOB DONE!

Since TETRAKOTE has been available, case history after case history of the success of this new way to prevent infestation have been recorded. Actual test locations throughout the grain producing states have shown complete absence of insect damage for periods over a full year . . . and, with only one application of TETRAKOTE when the grain was put into storage.

LOOK AT IT THIS WAY

It is a well known fact that insects can cause losses amounting to $1.00 per bushel in down-graded grain . . . or, in many cases, total loss when grain is condemned. To eliminate the chances of having to stand a financial loss such as this, all you need is a single application of TETRAKOTE. At less than 2c per bushel the cost of applying TETRAKOTE is economical. In fact you can figure that it costs you money *not* to use TETRAKOTE.

TETRAKOTE IS EASY TO APPLY

There are several recommended methods of applying TETRAKOTE. Each one is easy. Your Douglas representative will be glad to work with you to determine which method is best suited to your individual needs.

Have your grain inspected FREE

BY A SPECIALIST!

Take advantage of this unique, profit-saving offer. Let a Douglas Grain Sanitation Specialist conduct a 4-step grain sanitation check on your grain and storage facilities. Here is a man well qualified to help you spot infestation and to advise you on how to correct your trouble. There is no cost or obligation for this service. Act now!

GET FREE LITERATURE . . . FREE INSPECTION . . .

MAIL TODAY!

DOUGLAS CHEMICAL COMPANY
620 East 16th Avenue
North Kansas City, Missouri

☐ Please send additional information on TETRAKOTE!
☐ Yes! I would like to have my grain and storage facilities inspected. I understand there is no cost or obligation on my part.

I am currently storing _____ bu. of _____ (kind of grain)
I am storing my grain in ☐ flat storage, ☐ elevators
I would like to have the inspection made within
☐ 30 days ☐ 60 days

Name _____

Company _____

City _____ State _____

TABLE 1—Optimum Particle Sizes for Micro-Ingredients at Varying Levels of Supplementation

Level per ton of feed	Average diameter microns	Corresponding U.S. sieve No.
10 Mg.	5	...
100 Mg.	22	...
1 Gm.	45	325
10 Gm.	100	140
50 Gm.	170	80
½ Lb.	270	60
2 Lb.	440	40
10 Lb.	725	25

ing specification of "minus two-hundred mesh" (less than 75 microns) is stated. It is apparent from Table 1 that even this fineness may not be sufficient at very low supplementation levels.

It is also well known that the more sensitive micro-ingredients are unstable in finely-milled form in the presence of the moisture and minerals found in feed. A correlation exists between stability and exposed surface area per unit weight in certain cases. Hence a balance exists between distribution requirements and ingredient sensitivity which contra-indicates routine pulverizing. In comparing sources of any micro-ingredient, be certain that the average particle size of the active micro-ingredient is optimum in relation to level of incorporation and stability.

Physical Properties: Active ingredients should be free-flowing. Anyone who has prepared premixes is fully aware of the extra blending time and other difficulties associated with diluting out a fine, lumpy material. In some cases a fine particle size is essential, and extra blending is mandatory, perhaps followed by light milling, to remove balls and lumps.

Particle shape should correspond to that of the diluents. A micro-ingredient which acquires static electric charges will require extra care in handling. Ingredient suppliers can often minimize or eliminate this problem by supplying a different salt or physical form. Where applicable, such trouble may be circumvented by applying such ingredients as solutions. This may also be useful in handling hygroscopic micro-ingredients, if such are essential. Often such tendencies toward moisture pickup will be satisfactorily reduced in a finished premix, particularly if a low level of a suitable conditioning agent is added.

Stability: The survey revealed a few feed manufacturers with such well-coordinated operations that a premix was prepared, blended into feed, the feed shipped to the raiser and was all consumed by the animals or poultry in about a week. This is obviously the ideal arrangement. Under such conditions, stability is much less of a factor unless there is pelleting of feeds containing sensitive micro-ingredients.

Stability during pelleting, and in the stored pellets, has become a major consideration in recent years. The pelleting temperatures in routine use have been increasing recently due to the widespread use of added animal fats. This factor, plus the incorporation of higher mineral levels in certain feeds, has prompted re-investigation of pelleting stability in many plants.

Test Methods: The term "stability" has been widely used and sometimes abused. Literally dozens of different types of stability tests are in use. These include such common laboratory types as accelerated, long term, high temperature, room temperature, high moisture, high humidity, oxidation, high mineral, steaming, compression, weathering, irradiation, shelf, aqueous, etc. Each of these types of laboratory-scale tests will yield data for very specific applications when properly interpreted. However, the ultimate criterion must always be performance in the plant in typical formulas under actual manufacturing conditions, followed by storage in the warehouse and by the user.

One cannot arbitrarily suggest useful test methods and corresponding over-fills to incorporate, since each formula in every company may well constitute an individual case. Differences in composition and holding time of premixes and finished feeds, and variation in manufacturing methods and use conditions are too numerous to mention. Therefore, all reported data on "room temperature stability" or "pelleting stability" or "mineral stability" must be critically examined as to the nature of all the variables involved before meaningful comparisons between various commercial micro-ingredient sources can be made. The micro-ingredient manufacturers should be contacted for suggestions on suitable procedures for stability tests for specific purposes.

Overages: With feed manufacturing costs increasing, overfortification costs are difficult to justify. Major basic ingredient suppliers are the best sources of contact for advice on applicable stability tests and reasonable overages for specific applications.

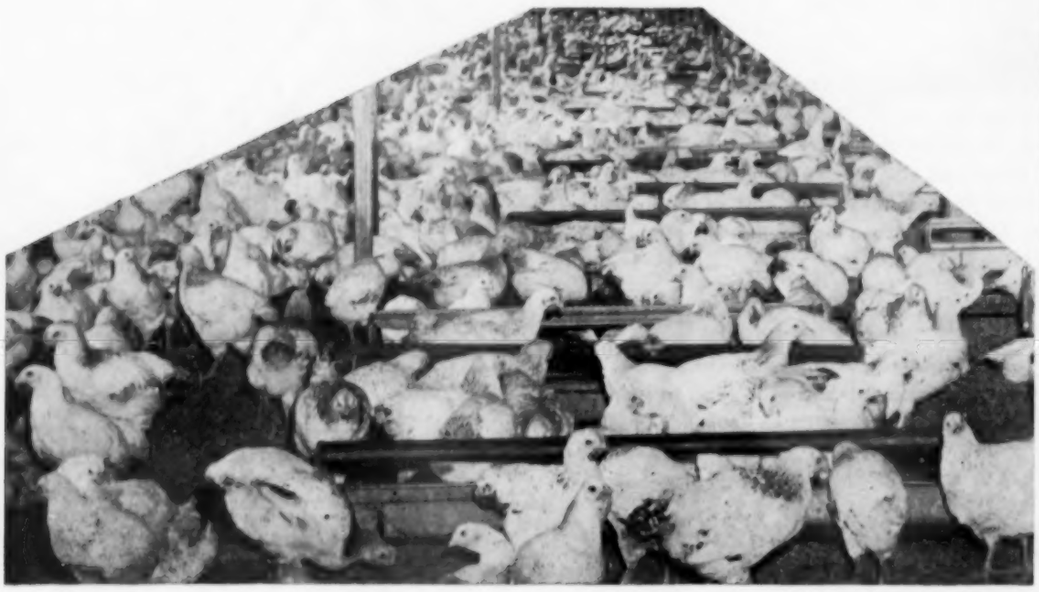
Animal Tests: Very few feed manufacturers are equipped physically or financially to compare in animals each of the sources of a given micro-ingredient. However, performance in the animal should be the controlling factor in selection of these products. Although physical properties, potency, stability and particle size may be comparable in many, one or two will stand out in animal tests. An example of this is the variation of in vivo performance between vitamin A products. Data on this subject from suppliers and from university trials, plus the experience of other feed industry members, should be studied. Visits to the supplier's research installation to observe test facilities and results are also helpful. The importance of this aspect of micro-ingredient selection cannot be over-emphasized. The palatability of the micro-ingredient source should also be confirmed.

Economics: The preceding discussion on the selection and properties of micro-ingredients for premixing points up the many factors influencing economic considerations. A careful evaluation of each of these will repay the feed manufacturer in many ways. The micro-ingredients are the heart of every premix, which necessitates a comparison of more than just selling price. With the aid of applicable tests, and the experience of the supplier, effective overages can be established for each individual application.

Diluents

Selection: After deciding on a source of each of the needed micro-ingredients, attention must be directed to diluents. Any diluent used should maintain or improve the stability and physical properties of the active components. The survey revealed a preference for such diluents as ground yellow corn, 50%,

Nichols Assures Better Returns on Your Feed



The mother line is ½ of the broiler cross — and that's what makes crosses based on Nichols #12 mothers so important to you now.

The extra vitality of the cross-bred Nichols #12 females is even more evident in their chicks. The health and livability of these chicks and its marked influence on their bred-in factors of low feed conversion and very rapid growth, gives you *a greater return on your feed when converted to meat.*

And, you have your choice of the popular feather patterns and body conformation. The #12s have proved the best possible mates for the better known meat-type males. Their chicks are available in every broiler area. Look for the name Nichols.

RESEARCH MAKES THEM BETTER NICHOLS

Nichols Incorporated

EXETER, NEW HAMPSHIRE

Fleischmann's F·I·D·Y

IRRADIATED DRY YEAST

RICH IN VITAMIN D FOR FOUR FOOTED ANIMALS

54% and 41% soybean oil meal, wheat middlings, fine granular limestone, wheat shorts, soybean millfeed, cottonseed meal, fish meal, bolted corn meal, degermed corn cones, ground milo, distillers grains, linseed meal, corn gluten meal and ground oats. Sugar was also in use as a diluent for micro-ingredients which were to be added in solution.

From the diversity of carriers used in the trade, it would seem that almost any feed ingredient would be acceptable. Actually, many factors must be considered, including possible effects on micro-ingredient stability, and whether the carrier is an ingredient common to the particular formula. If not, will enough be added to require including it on the label? In addition such diluent properties as density, particle size and shape, equilibrium moisture, hygroscopicity, dustiness, palatability, flow, pH, trace metals content, nutrient value, etc., must be looked into.

Physical Properties: It is generally desirable that all ingredients used as diluents in a premix be common to the feed formula. This obviates the need for changing the ingredient lists on tags. It is usually possible to avoid going outside the formula for diluents. However, this does not mean that ordinary run of the mill ingredients will always be acceptable. Some manufacturers utilize selected lots of 44% soybean oil meal with a reduced amount of coarse particles on a 30 mesh screen to minimize micro-ingredient separation. Others mill the regular ingredients to attain this objective. In general, milling the diluent through a 1/8-3/16" screen serves to satisfactorily reduce the coarse fraction retained on a 30 mesh screen. Many prefer 50% soybean meal for its greater uniformity, but again will carefully select lots for use in premixes.

Most manufacturers attempt to match the micro-ingredient densities to those of the diluents wherever possible. This is very desirable, although not a completely reliable procedure to eliminate separation. The shape and surface texture of the micro-ingredient and diluent particles can often be most important. A few manufacturers reported success in reducing separation by incorporating low levels of inherently sticky ingredients such as animal fat, distillers solubles, etc.

Better premixes often can be prepared by employing a blend of several diluents rather than just one. While any diluents selected should match the micro-ingredients, it is equally important that the diluents themselves should blend uniformly into the final feed. Several helpful tables on these diluent properties are available. A brief summary of data compiled from several sources is shown in Table 2.

TABLE 2—Average Packed Densities

Diluents	Lb./Cu. Ft.
Corn, fine ground	45
Corn meal	38
Citrus meal	14
Oats, ground	25
Soybean meal, 44%	41
Soybean meal, 50%	47
Soybean millfeed	32
Limestone, fine gran.	100
Wheat middlings	30
Additives	**Lb./Cu. Ft.**
Terramycin, TM-10	53
Vianol, BHT	42
Vitamin A-250 P	47
Stilbestrol suppl.	47
dl-Methionine	27
Vigofac	35
Procaine penicillin	45
Choline chloride, 25%	28
$MnSO_4$	94

It should be emphasized that the above values are for lightly packed ingredients and are subject to considerable variation depending on screen analysis, moisture content, degree of packing, etc. Local supplies should be checked for exact bulk density, either loose or packed as desired, for more accurate data.

Chemical Properties: A number of additional factors influence the usefulness of diluents. Most micro-ingredients exhibit optimum stability in the pH range of about 5.5 to 7.5. The pH value becomes more important with increasing moisture levels in blends. Proposed formulations should be carefully checked for this property. The presence of natural or added fats may create storage problems if rancidity develops due to inadequate stabilization. The off-flavors and odors resulting may affect palatability, and peroxide formation can reduce fat-soluble vitamin potencies. Trace minerals can be troublesome, especially in the presence of higher moisture levels. In selecting inorganic carbonate and phosphate carriers, it is undesirable to permit Fe_2O_3 to exceed a few tenths of one percent. High fluoride and silica levels in diluents should also be avoided for obvious nutritional reasons.

Moisture content is another important factor. High levels will adversely affect flow properties and will enhance caking tendencies. In addition, the degradative action of added or trace metal compounds in the premix is very often markedly increased as moisture rises. Diluents which are initially high in moisture, or which have high equilibrium moisture values when exposed to high humidities, can create stability problems where the premixes must be stored for several weeks. An additional problem is overheating in large batches of diluent or premix

(Continued on page 65)

why profits rise with a Schutte HAMMER MILL

Costs go down and profits go up with a Schutte Hammer Mill! Whether grinding feed, grain, hay, alfalfa or meat scraps, its rugged, efficient performance saves both *time* and *power*, giving you greater tonnage output at lower milling cost.

Schutte's profit-making performance is achieved by an unrivaled combination of features:

★ Screens are changed instantly, *while the mill is running*, without exposure to whirling hammers.

★ Variable clean sweep suction provides proper air flow for most efficient grinding.

★ Special steel construction, welded at every stress point, gives trouble-free operation under the heaviest work loads.

★ Downright simplicity eliminates lost time. All parts are quickly accessible.

★ 10 working surfaces on Schutte Pat. Adjustable Hammers assure long cutting life and low hammer cost.

Built in a wide range from 30 to 125 hp, Schutte Heavy Duty, Instant-Screen-Change Hammer Mills are available in belt-driven or direct-connected models. Request *free* literature for full details.

SCHUTTE PULVERIZER COMPANY, INC.

Schutte Hammer Mills, Feed Mixers, Molasses Blenders, Crusher Feeders, Baggers, Dust Collectors, Portable Bulk Scales.

878 BAILEY AVE., BUFFALO 6, N. Y.

YOUR GUIDE to better PELLETED FEEDS

send for Free bulletin

To producers of pelleted feeds . . . here is your guide for making better pellets, in larger volume, at lower costs, by using NATIONAL BENTONITE. Many producers of pelleted feeds say it is one of the finest bonding agents to date. The attractive gloss imparted by each pellet bonded with NATIONAL BENTONITE gives them unusual sales appeal.

Mail coupon today to get your free copy of bulletin for additional information on NATIONAL BENTONITE for pelleted feeds.

BAROID DIVISION NATIONAL LEAD COMPANY
ROOM 1864, McCORMICK BUILDING
332 SOUTH MICHIGAN AVENUE, CHICAGO, ILLINOIS

Name_____ Title_____

Company_____

Address_____

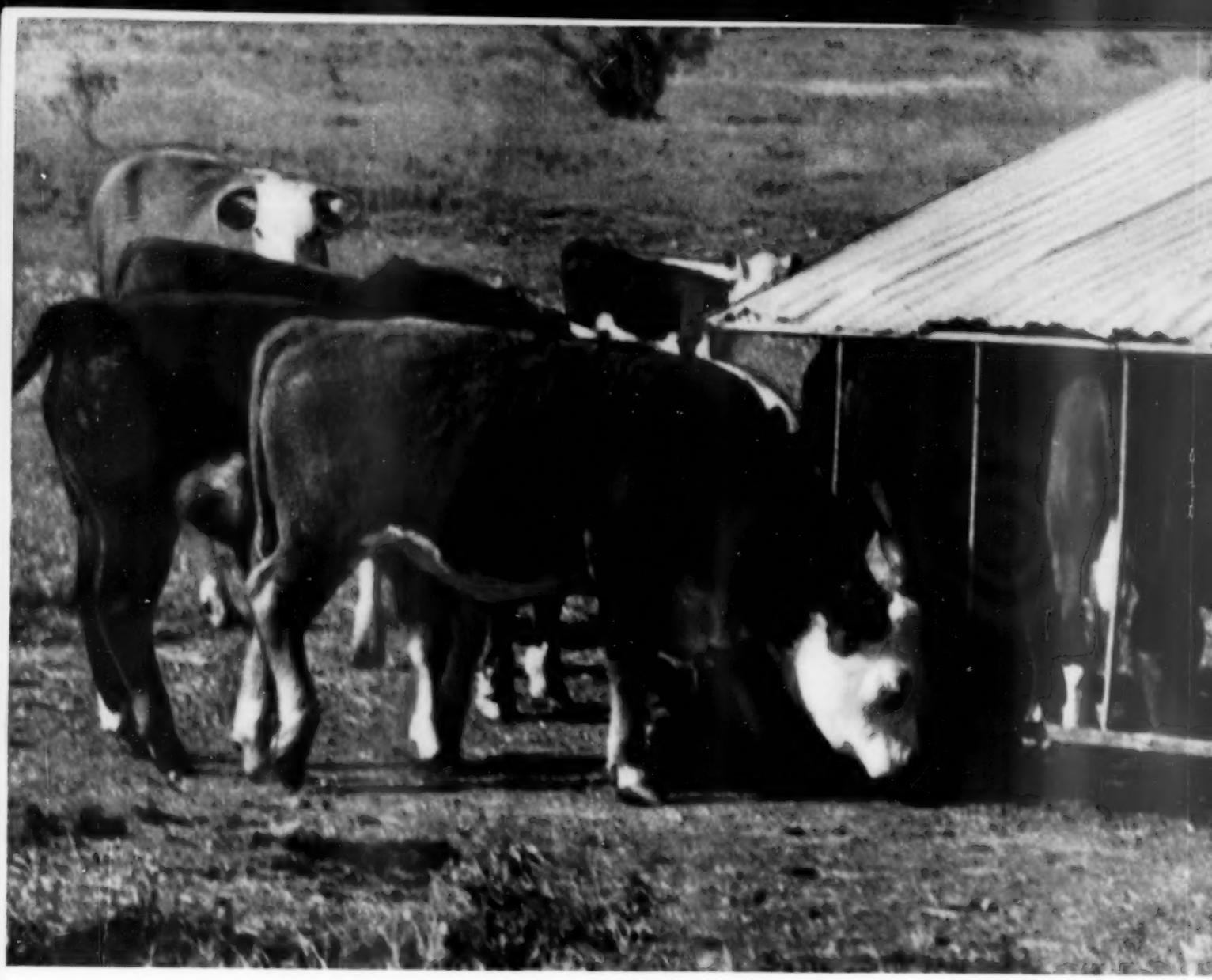
City_____ Zone____ State_____

5720

WORLD'S LARGEST PROCESSORS OF BENTONITE

BAROID

BAROID DIVISION
NATIONAL LEAD COMPANY



Here's evidence of thrifty gains!

37.4% increase in gain

26.5% improvement in feed e

shown in a test just completed with

AUREOMYCIN in calf creep fee

Results with Aureomycin in Creep Feed Experiment

	WITHOUT AUREOMYCIN	WITH AUREOMYCIN*
Number of calves	50	97
Days creep fed	112	113
Average initial weight, lbs."in"	218.8	251.0
Average finishing weight, lbs.	382.0	475.3
Average daily gain, lbs.	1.46	1.98
Percentage increase in gain		37.4%
Lbs. creep feed per lb. gain	2.34	1.72
Percentage improvement in creep feed efficiency		26.5%

**Creep Feed contained sufficient AUREOMYCIN to provide 70 milligrams of AUREOMYCIN Chlortetracycline per head per day.*

efficiency

eeds

Here's a tremendous opportunity for you to build additional feed volume:

There's a strong trend *already existing* toward more creep feeding of calves. This trend will *be even more pronounced* when cattle feeders learn of the remarkable results achieved with AUREOMYCIN in creep feeds.

Look at the table above. This is the first of several experimental trials conducted to compare benefits with and without AUREOMYCIN in creep feeds. Other trials, now nearing completion, also indicate dramatic results in providing thrifty gains in calves.

Cyanamid is announcing the results of these tests in full-page advertisements in cattle publications throughout the country. Feeders will get the complete, money-making story, together with the recommendation for AUREOMYCIN in creep feeds.

CREEP COVERAGE 70

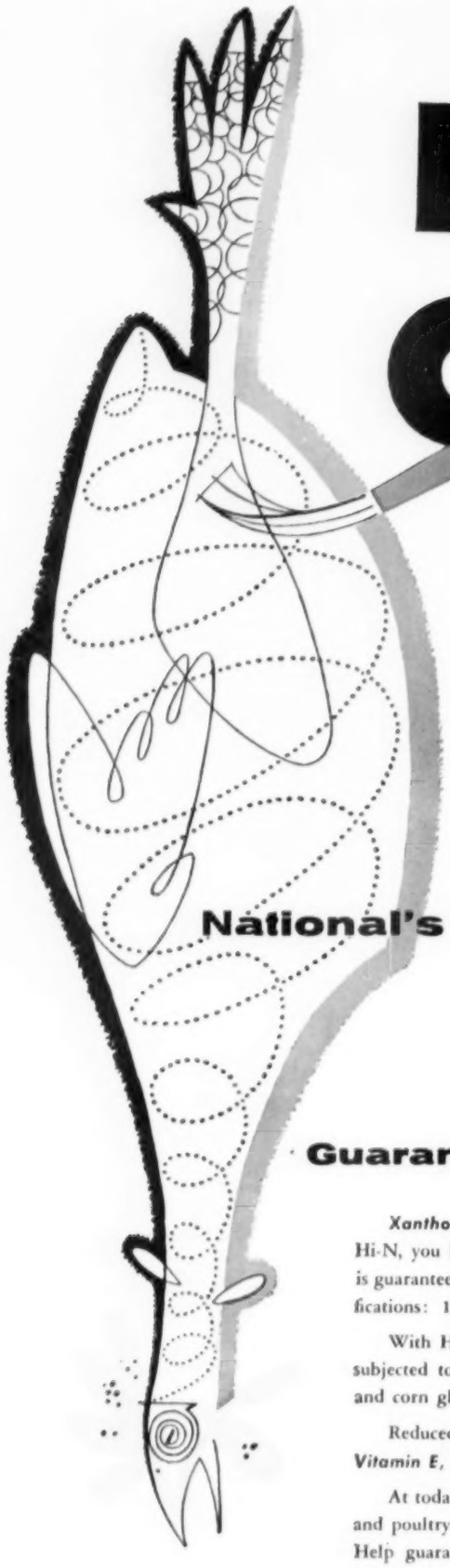
This is the recommendation to cattle feeders: "Be sure your calves are given *continuously* a creep feed that contains sufficient AUREOMYCIN to provide 70 milligrams of AUREOMYCIN per head per day."

Your feed tags on creep feeds that supply this amount of AUREOMYCIN can carry this claim: "For increasing weight gains and improving feed efficiency in beef and dairy calves, prevention of bacterial diarrhea (scours) and reduction of losses due to foot rot."

For more detailed information, write to ANIMAL FEED DEPARTMENT, FARM AND HOME DIVISION, AMERICAN CYANAMID COMPANY, NEW YORK 20, NEW YORK.

CYANAMID

AUREOMYCIN® for thrifty gains in beef cattle



more color

for your poultry customers creates BIGGER PROFITS!

National's New Hi-N

Guarantees 25% more Pigmentation Factor

Xanthophyll is a key word in today's poultry nutrition. In Hi-N, you have the key! 125,000 I.U.'s of Vitamin A per pound is guaranteed. 150,000 mcg. of Xanthophyll is assured. Other specifications: 18% Protein . . . 23% Max. Fibre.

With Hi-N in your poultry feed formulas, your feeds are not subjected to the possible Xanthophyll deficiencies of yellow corn and corn gluten meal.

Reduced fibre in Hi-N has concentrated the following factors: ***Vitamin E, Vitamin K, Amino Acids, Unknown Growth Factors.***

At today's low usage level of dehydrated alfalfa meal in broiler and poultry feeds, why not use the best alfalfa product available? Help guarantee both feeding and finishing results with guaranteed Hi-N!

OTHER HIGH QUALITY NATIONAL DEHYDRATED ALFALFA PRODUCTS

- 17% Regular Meal
- 17% Meal, Oil Treated
- 17% Reground Pellets (Plain or Oil Treated)
- 17% Granules
- 17% ¼" Pellets
- 20% Broiler Leaf Granules
- 20% Broiler Leaf Meal

WORLD'S LARGEST ALFALFA DEHYDRATORS

SALES OFFICES

BOARD OF TRADE BLDG., K.C., MO. • SINKING SPRING, PA.
PLAINVIEW, TEXAS • LEXINGTON, NEBRASKA • MANZANOLA, COLORADO
LAMAR, COLORADO • MIDLAND, KANSAS • OMAHA, NEBRASKA
GARDEN CITY, KANSAS

WORLD'S LARGEST NATIONAL ALFALFA DEHYDRATORS

NATIONAL ALFALFA DEHYDRATING AND MILLING COMPANY

John Homer

NEW SUPERINTENDENT—John Homer is the new superintendent for the Honegger-Hanley Mill, Mansfield, Ohio, according to a recent announcement by J. O. Hanley, president. Mr. Homer joins the firm with more than 42 years of experience in the feed industry. He joined Park & Pollard Corp. in 1914 and was mill superintendent when the firm was purchased by Maritime Corp. this year.

during storage at high moistures and/or humidities. Such overheating can adversely affect both nutritive value and palatability. Increased infestation can be an additional problem in cereal diluents containing excessive moisture.

Among incidental points revealed in the survey were that some manufacturers are using fish meal as a component of certain premixes. Others reported marked potency losses by less stable fat-soluble vitamin components in the presence of fish meal. Most mills specified a 12% moisture limit in all ground corn and milo used for premixing, while others used run of the mill material. Numerous instances of serious micro-ingredient separation from regular 44% solvent soybean meal were reported. These were correctable by careful selection of meal having a finer grind, if in-plant milling was not practical on regular shipments. In some cases a switch to 50% soybean meal, or to soybean millfeed, solved the previous separation problems. Expeller process soybean meal has been reported to be a very satisfactory diluent, but the present short supply limits its use. For minerals, the most common diluents were fine granular or pulverized limestone and the phosphate source materials.

Tracers

When one considers the complexity of the multi-component premixes produced in many feed plants today on a routine basis, the problems inherent in adequate quality control appear to be enormous. Many feed manufacturers do not have laboratory facilities and qualified personnel to analyze such premixes for each ingredient. Such detailed testing would be prohibitively expensive whether done in the laboratory of a large plant or sent to an outside laboratory by a medium or small operator. This situation has stimulated research into the use of tracers.

Uses: A number of applications have been found in the feed industry for tracers. These include:

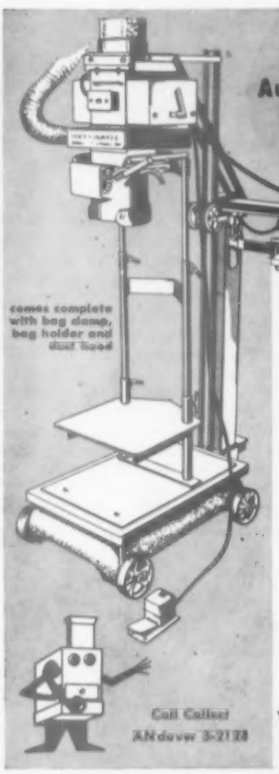
1. Comparing the efficiency of different types and models of blenders using the same premix and blending time.
2. Determining optimum blending time in any given unit.
3. Checking uniformity of distribution of other premix components.
4. Following product flow.
5. Different types or colors of tracers in successive batches of a given type provide a means of following turnover rates in other plants, or by dealers using the premix.
6. Very high visible levels of colored tracers added to finished feed via the premix help convince the livestock raiser that all essential nutrients were added.

Properties: To provide meaningful results, a tracer should exhibit physical properties and blending characteristics similar to those of the other micro-ingredients. A good match in particle size, density, particle shape and surface texture is very desirable. A very friable material, or one which is hygroscopic or otherwise unstable, may yield misleading results. If chemical tests are necessary, the tracer should preferably be a substance unique to the formula.

The major types of tracers fall mainly into four categories. These are colored materials, compounds determined by chemical tests, fluorescent substances and radioactive products.

Chemical: One may select any one or more key compounds of a multiple premix and assay for these as indicators of batch uniformity, etc. This is being done in many feed mills today, and a wide variety of micro-ingredients are used as tracers. These include salt, manganese compounds, Nicarbazin, riboflavin, vitamin A, $CuSO_4$ and sulfaquinoxaline. There are advantages and disadvantages to each, and a few companies prefer adding some special material as a tracer. Such a special additive must of course be innocuous, preferably one which is not found in any other ingredient or diluent, and must be easily detectable at very low concentrations.

Colors: In the category of colored tracers determined visually, perhaps the most well known and widely used has been red iron oxide powder. Also commonly used are F.D. & C. Red 32 or F.D. & C. Orange 2 dissolved in vegetable oil and sprayed



Change your scale into an Automatic Bagger-Weigher with a

waymatic

The Waymatic is easy to install . . . It's accurate . . . It's fast. The Waymatic is the economical way to change your platform scale into a fully automatic bagger-weigher for grain, seed, feed, chemicals or practically any free-flowing dry material. Attach it to the hopper opening for one location installation, or to your scale itself for use under different hopper locations. Let a Waymatic save you time, money and labor.

- Installs in less than an hour
- Fills and weighs 6-8 bags a minute
- Can be used with any platform scale
- Handles all free-flowing dry material
- One man can handle both the Waymatic and a stitcher
- Accurate to within 2 oz. per 50 lb. bag
- Belt conveyor available for moving bags from scale to stitcher.

"See your Seedburo Representative"

SEEDBURO

EQUIPMENT COMPANY

Dept. FS-3, 618 W. Jackson Blvd., Chicago 6, Ill.

VAN DUSEN HARRINGTON

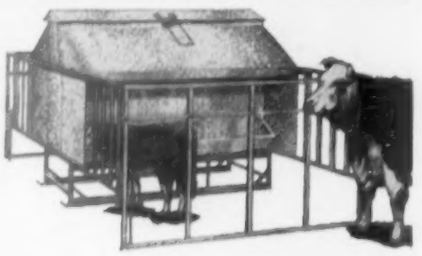
DIVISION
F. H. Peavey & Co.

GRAIN SOYA BEANS FLAX

Founded 1852

MINNEAPOLIS Pv DULUTH

BROWER CALF "CREEP FEEDER"



★ KEEPS COWS OUT— SAVES FEED

★ BIG CAPACITY— SAVES TIME AND WORK

★ MORE PROFIT— HEAVIER WEANING WEIGHT

Holds 30 bu. of feed — takes care of 40 calves. Designed to keep feed in hopper dry regardless of weather — no spoilage. One inch angle iron stalls keep out larger cattle. Stalls raise up and ride on canopy for easy towing through gates. Anchors solidly at all four corners — stays put.

Hopper and trough of heavy, rust-resisting Armco Zincgrip. Sturdy steel skids. Shipped knocked down to save freight. Easily assembled.

Write for literature and prices

BROWER MANUFACTURING CO., 558 N. 3rd, Quincy, Illinois

take the PAY WAY TO EXTRA FEED TONNAGE

PAY WAY® extra rich feeds

PAY WAY FEED MILLS, INC. • KANSAS CITY, MO. • Oscar Straube, President

onto a carrier such as soybean oil meal. Alternatively, the colors may be dissolved in fish oils, A & D concentrate oils and possibly even animal fats. Sufficient color is added to provide at least 10 parts per million in the finished blend. After blending, samples may be solvent extracted, the extracts chromatographed, and color intensity read on a suitable instrument. Recent Food and Drug Administration rulings have branded both these colors as unsuitable for food use, which shifts future tracer work toward the water soluble colors.

Some feed manufacturers now offer custom mixes containing a very high percentage of cereal carriers dyed with various approved F.D. & C. colors. When 50-100 lb. of premix are added to a ton of ration, the colored particles are readily visible in the finished feed. This procedure apparently helps convince the user that the green particles in his broiler mash, or the blue particles in his turkey starter, prove the presence of all essential nutrients. However, this can be expensive as at least ⅛% of such colored particles must be added for visibility.

Tracer products are now available which consist of F.D. & C. water soluble colors bonded on salt or silica carriers. The carrier particles are of a controlled uniform range of sizes. After mixing into a feed product, the tracer particles are separated from feed ingredients by sedimentation in suitable solvents. This sediment is transferred to a filter paper disc and dried. The paper is then sprayed with water, which leaches out the color to form spots. These tracer particle spots are easily counted as an index of uniformity. Particle recovery and distribution can be checked as the tracer product is standardized to contain about 200 particles per milligram in undiluted form. Tracer products of various colors may be used to tag different micro-ingredients in a single blend, and the resulting spots are counted separately. A complete assay requires about 5-10 minutes and does not require expensive equipment nor professional skill.

Fluorescence: Considerably less use has been made of fluorescent tracers. Although they offer many possibilities, the need for special ultra-violet lamp equipment, and the presence of naturally occurring fluorescence in many feed ingredients, have served to deter such studies. Riboflavin is perhaps the most well known fluorescent ingredient tracer employed. Instead of its quantitative determination, some success has been reported via simple observation for non-uniform fluorescence in dry samples under U.V. light. Greater accuracy may be obtained by fluorometric measurements on solvent extracts of such samples, however. Vitamin A has also been tried because of its fluorescence. There are many compounds which are very strongly fluorescent under prescribed conditions. Quinine, for example, is detectable in acid media at levels of only a few parts per billion. Many minerals, and even cereal grains, exhibit characteristic fluorescence. Basic texts on fluorescence analysis can provide many useful ideas on this subject.

Radioactive: Radioisotopes present many intriguing possibilities as tracers. Their widespread biological and medical applications are well known. They are detectable at levels millions of times smaller than those determined by chemical means. Even more important than sensitivity is the specificity of this approach, which permits accurate studies in highly complex systems. A typical radioisotope which has been used in many applications is Phosphorus-32 which exhibits a half-life of about 14 days.

A few feed manufacturers have used radioisotopes on an experimental basis to study blender efficiency. Many specific tagged compounds are now readily available from commercial sources after appropriate Atomic Energy Commission licenses have been obtained. However, there are also a number of isotope sources now available which do not require AEC approval. These are supplied as aqueous solutions of calibrated activity in sealed glass vials. These aqueous sources are chemically stable over long periods of time, and many are normally available from stock at a cost of about $50. In addition, a number of short-lived isotope labelled compounds and special industrial process tracers are available.

Part II of this paper will discuss premixing equipment, suggestions on various aspects of the premix operation as revealed by the feed industry survey, and quality control considerations.

Dry Skim Milk Output Up 18% in January

WASHINGTON — Output of dry skim milk for animal feed in January totaled 1,300,000 lb., up 18% from a year earlier and 4% above the average, the Agricultural Marketing Service reports. Dry buttermilk production equaled 4,950,000 lb., 3% below a year earlier, but 20% above the January average.

Dry skim milk stocks for animal feed Jan. 31 equaled 1,084,000 lb., 36% more than a year earlier, but 14% less than average. Dry buttermilk stocks totaled 4,727,000 lb., 2% above a year earlier, but 33% below the Jan. 31 average.

Selling prices of dry skim milk for animal feed in January averaged 10.07¢ lb., up 4/10¢ from the preceding month but down 1/10¢ from a year earlier. Combining both human food and animal feed, the price of dry buttermilk averaged 12.98¢ lb., 2/10¢ more than the previous month, but .3¢ less than a year earlier.

THE MAN WITH THE ★ MULTIWALL PLAN

UNION
PACKAGING SPECIALIST
DON DEININGER

saves Multiwall user $8 per M through specifications review

A leading company, already using 43 different sizes and types of Multiwalls, planned to add new products to its line. Union Packaging Specialist Don Deininger recommended a simplification of Multiwall specifications and inventory. Union prepared a Specifications Manual for the manufacturer, also simplified, unified and modernized his bag designs.

Results: user reported: (1) Union's recommendations for re-designing bag sizes and constructions in some instances saved as much as $8 per M.

(2) The new Specifications book enabled the customer to order bags more easily and accurately. It also simplified his inventory control.

(3) The new designs established a visual relationship between his family of products, enabled his sales force to do a better merchandising job.

This is a typical example of Union's 5-Star Multiwall Plan in action. Perhaps it can produce gains in your own Multiwall packaging operation. Write for additional information.

Union Multiwall Recommendations are based on this 5-star Packaging Efficiency Plan

★
- DESIGN
- EQUIPMENT
- CONSTRUCTION
- SPECIFICATION CONTROL
- PLANT SURVEY

Better Multiwall performance through better planning

union camp

UNION'S PACKAGE ENGINEERING DEPARTMENT will study your Multiwall bagging methods and equipment and make appropriate recommendations, regardless of the brand of Multiwalls you are now using.

UNION MULTIWALL BAGS
UNION BAG-CAMP PAPER CORPORATION
233 BROADWAY, NEW YORK 7, N. Y.

BOWMAN PRODUCTS

VIANOL
Oil soluble vitamin protector and pigmentation aid.

BoA-S and Bo-A
Stable dry vitamin A products.

BoDEE
Vitamin D-2 or D-3 in dry, oil or water dispersible forms.

BoDEE (Mineral) STABLE VITAMINS D
Vitamin D that will not decompose when combined with minerals.

XANTHOPHYLL CONCENTRATES
For better poultry pigmentation.

HYDROPOID
Dry, free-flowing partially hydrogenated animal fat.

CLOROFOLEN
Effective dog food deodorant.

Bowman Feed Products, Inc.
130 Central Ave., HOLLAND, MICH.

This is how vitamin E comes to you

This is the supplement that makes the vitamin E content of your finished feeds a sure thing. With the vitamin in the stable *d*-alpha-tocopheryl acetate form, it holds its potency through heat, long storage, and the effects of other feed ingredients.

Myvamix® Vitamin E is the supplement that's as easy to handle as anything in your mill. We put the vitamin on a dry, non-dusting soy meal base that mixes evenly throughout your feed without fuss or bother.

It's the supplement you can count on for a consistent 20,000 International Units of Vitamin E per pound. And the *Myvamix* protection costs only a few dimes per ton of your product.

For information or a quotation on Myvamix Vitamin E Feed Supplement, call the distributor nearest you, or *Distillation Products Industries,* Rochester 3, N. Y. Sales offices: New York, Chicago, and Memphis • Charles Albert Smith Limited, Montreal and Toronto.

DPi

producers of

Myvamix ***vitamin E***

Distillation Products Industries

is a division of **Eastman Kodak Company**

● PREFERRED

...by poultrymen for pigmentation

♦Diamond® Corn Gluten Meal is a favorite of long standing with men who know poultry feeds and feeding. High in pigmentation and vitamin A potency.

CORN PRODUCTS SALES CO.
17 Battery Place, New York 4, N.Y.

J. H. LEFTWICH & CO., Inc.

BLACKSTRAP MOLASSES

Phone HEmlock 2-8771 Mobile, Ala. P.O. Box 78

Savannah, Ga. Jacksonville, Fla.
New Orleans, La. Corpus Christi, Texas
Tuscaloosa, Ala. Nebraska City, Neb.

Shipments by Rail Tank Car, Truck Transports and Barge

ADVANCED COURSE—Sales trainees from nine districts of Allied Mills, Inc., attended an advanced sales conference at the Hotel Moraine, Highland Park, Ill., at which chart talks, practice selling for resale, improved dealer service and feed program discussions were featured. Sessions also were conducted at the Wayne research farm, Libertyville, Ill. In attendance were those pictured here. Front row, left to right: Richard Hall, Bill Edmonson, Charles Mattern, Richard Stanley, Paul Detwiler and Reed Saylor; middle row: Robert Johnston, Gordon Marcus, John Miller, Herman Wratchford, J. C. Gurkin, Lloyd Siberell and George Belt; back row: G. G. Gensmer, James Williams, Robert Leitz, George Ball, Reed Gilbert and John Gross.

California Tests Aim To Find Out if Cloud Seeding Really Works

BERKELEY, CAL.—Does cloud seeding really increase rainfall? And if it does, can this method be utilized by man as an effective and safe way to "irrigate" fertile but parched land?

A three-year experiment intended to help answer these and other questions related to rain-making and atmospheric physics has been started in Santa Barbara County, Cal.

The statistical laboratory of the University of California, Berkeley, designed this "randomized" experiment and will be responsible for the ultimate evaluation of the results.

Previous efforts to determine the effectiveness of seeding storms in California failed to give any clear-cut answer, and even generated some controversy. The primary reason is that in order to be decisive a cloud seeding experiment must be conducted on what statisticans call "randomized" basis.

A University of California engineer, Everett D. Howe, chairman of the university's mechanical engineering department, said recently cloud seeding is here to stay and great advances in the practice will be noted in the next few years.

Speaking before the Fresno County Farm Bureau board of directors recently, he said weather is made at elevations of from 40 to 70 miles while cloud seeding is practiced at 40,000 ft. or less.

"I believe the physics of clouds is not well understood as yet," he said. "There is much to be discovered, such as how a water droplet is formed in a cloud and how these droplets become rain or snow."

He said cloud seeding with present methods can be expected to increase rainfall by 10 to 20%, and greater knowledge will bring even greater results.

In this latest study the meteorologist engaged in modifying the weather is allowed to select at will the opportunities for seeding. But he is not allowed to seed every opportunity. Once an opportunity is identified, a random experiment is performed, for example, a coin is tossed. If the coin falls heads then the cloud seeding begins, but not otherwise.

However, observations of the rainfall will be conducted on all seeding opportunities, regardless of whether seeding operations are carried out or not. With a sufficiently long series of observations, the comparison between the seeded and not seeded storms will give a definite conclusion regarding the effectiveness of seeding as such, free from the possible effects of forecasting.

Arkansas By-Products Firm in Operation

DE QUEEN, ARK.—Operations have been started here by a plant which converts by-products from Maplecrest Farms, Inc., a poultry processor in De Queen, Ark., into feeds.

The Arkansas Poultry By-Products Co. operates its plant in conjunction with Maplecrest Farms. William D. Brown heads the concern and Wallace Warren is plant manager.

HETROGEN K is the most effective and most economical poultry health insurance you can buy. It can be added to poultry feeds at a cost of less than 10¢ per ton!

It is WATER SOLUBLE and is always rapidly absorbed despite the presence of liver or digestive disease.

As a PREMIX, HETROGEN K eliminates all waste and weighing because it can be packaged to your specifications. Just empty contents of package into feed batch, mix . . . and you can be sure your feed contains an adequate amount of **VITAMIN K** for the prevention of hemorrhagic disease.

MAIL THIS COUPON NOW

☐ Please send me free literature on HETROGEN K.
☐ Please send the name of your nearest distributor

Firm Name.....
Signature.....
Address..... City & State.....

HETEROCHEMICAL CORPORATION • 111 E. HAWTHORNE AVENUE, VALLEY STREAM, NEW YORK • LOcust 1-8225

You Get More Quality For Less Cost

WITH *Universal* BUCKET ELEVATORS

COMPARE THESE FEATURES:

High Quality, Rugged Steel Construction

Greater Economy

Easier Installation

Quick Delivery

UNIVERSAL ELEVATORS are available for capacities of 50 to 3,000 bu. per hour, and can be obtained for any exact height to 100 feet.

50 years of experience coupled with the latest in production methods has made Universal famous for top quality Bucket Elevators.

SEND FOR FREE LITERATURE AND PRICES

UNIVERSAL HOIST AND MFG. CO.
Box 101 Cedar Falls, Iowa

Germ-starving nf-180 in booster feeds offers new help in knocking out broiler troubles

Turns sick calls into sales calls

Broiler growers, dealers and feedmen are experiencing new success in coping with broiler growing troubles.

They're putting nf-180-fortified booster feeds to work in broiler feeding plans and getting results that beat anything they've ever tried. Many use nf-180 medication before trouble strikes—others use it for spot treatment when outbreaks occur. Either way it makes profitable broiler production possible under a wider range of conditions.

Here are typical results:

Growers

. . . find that nf-180 helps them squeeze out more profit. Growth rate and feed conversion stay at a peak for greater profit.

Dealers

. . . like the flexibility and wide application of nf-180-fortified feeds. They can fit feed usage to meet grower problems and keep costly disease under control.

Feedmen

. . . profit from satisfied dealers when growers make money. With nf-180 in a booster feed a *sick call* can be turned into a profit-making *sales call.*

nf-180...effective against a wide range of diseases

No other medication today matches the germ-killing effectiveness of nf-180 in a bag of feed. It interrupts the germs' metabolism . . . throws them off feed . . . makes them starve to death. What's more, the same low level of nf-180 medication continues effective year after year. Because nf-180 kills bacteria, no significant cases of resistant bacteria have ever developed.

Booster feeds fortified with nf-180 specifically prevent pullorum, fowl typhoid, paratyphoid and most occurrences of synovitis, CRD (air sac), non-specific enteritis (blue comb) and ulcerative enteritis (quail disease) of chickens.

What's more, college tests and grower experience show that nf-180 speeds growth, promotes high livability and improves feed conversion while it fights off trouble.

nf-180 spot treatment helps flocks through stress periods

nf-180 has become a life-saver to broiler profits. Broilermen often find their most serious setbacks result from stress periods that give diseases and secondary bacterial invaders a chance to get hold. Whenever the flock is exposed to adverse conditions, such as severe temperatures, handling or management changes, infections are more easily picked up. That's where feeding a nf-180 booster feed really pays off.

Safe for all poultry of all ages

nf-180 assures safe, positive action, yet causes no unwanted "side effects." It improves feed conversion . . . speeds growth while it knocks out disease . . . is non-toxic to all poultry, livestock and pets. This wide margin of safety eliminates danger of contaminating other feeds in the mill . . . simplifies and speeds up the mixing process.

If you and your growers aren't already profiting from the down-to-earth benefits of this nitrofuran medication program, it will pay you to take a second look now. Ask your Hess & Clark man why nf-180 "feed-away-trouble" medication is the growing trend in broiler growing today.

NT-6-4R

nf-180

One of those lifesaving nitrofurans

germ killers that last

HESS & CLARK, Inc.

ASHLAND, OHIO

UP OR DOWN?

By Leonard W. Schruben
Agricultural Economist, Kansas State College

Different Ways to Figure Parity

Whether you know it or not, you have a direct interest in a recent report on parity. It was made to Congress by the Secretary of Agriculture. The report was titled "Possible Methods of Improving the Parity Formula," and was required by the Agricultural Act of 1956.

This report is important to the feed trade because price support and other government farm programs are based largely on parity. You have an interest whether you sell price supported commodities, buy them or pay taxes. There isn't anyone who doesn't do one or more of these things.

The purpose of this article is to bring you a summary of the parity report and point out how formula changes can bring about changes in parity prices. No effort is made to take a position or express an opinion relative to the merits of the proposal because that is the job of every citizen. You should obtain a copy of the report from your Senator or Congressman if you are interested in this study of parity.

The Secretary's report is divided into four main parts. They are: (1) Conclusions and recommendations; (2) discussion of the present parity price formula; (3) discussion of the uses and limitations of the parity formula; and (4) discussion of the leading alternatives relating to parity prices.

The report made the following recommendation: "It is recommended that the modernized parity formula now contained in the Agricultural Adjustment Act of 1938, as amended, be continued except that the base period, January, 1910, to December, 1914, inclusive, should be changed to January, 1947, to December, 1956, inclusive."

Readers of this column will be interested in comparing the effect of this recommendation on parity prices for different farm products. This is done in Exhibit 1 which accompanies this article.

You will notice in Exhibit 1 that we have compiled several columns of figures. The first column reports old parity; second column, effective or transitional parity; third column, new parity. All three of these parity computations base the relationship between agriculture and other segments of the economy on 1910 to 1914 averages. The fourth column indicates the parity prices which would have prevailed on Jan. 15 had the relationship between agriculture and other segments of the economy been based on an average for the 10 years 1947 through 1956.

Here is how to use the data in Exhibit 1. You will notice on the first line under the heading "commodity unit" that wheat parity prices are reported in terms of bushels. Therefore, the figures as you read across the page are in dollars per bushel. These represent computed parity for wheat. You'll notice that it varies from $2.62 bu. to $2.26 bu. This range depends upon the method used in computing parity and the difference of prices which prevailed in the periods used as a basis for the computation. Other parity prices can be found by referring to the table in the same manner.

Just a word about what parity means may be in order. Essentially, it is the price that would give a farm commodity like wheat, corn, cattle, hogs or other products the same purchasing power as prevailed during the base period used in the computation. In other words, a hundred bushels of wheat would buy as much in the market today as during the average 1910-1914 if wheat sold for a price equal to old parity.

Exhibit 1 illustrates the mechanical workings of parity computations. If you desired a formula that would make parity price for wheat or corn equal to $6 bu., this writer is certain it could be done.

EXHIBIT 1—Old, Effective and New Parity Prices for Selected Farm Products as Based on 1910-14 and on 1947-56, U.S., Jan. 15, 1957

Commodity and unit	Parity prices, 1910-14 base period			New parity prices 1947-56 base period
	Old	Effective	New	
Wheat, bu., dollars	2.62	2.49	2.30	2.26
Corn, bu., dollars	1.90	1.80	1.70	1.66
Butterfat, in cream, lb., cents	77.8	73.0	73.0	71.6
All milk, wholesale, cwt., dollars	4.74	4.76	4.76	4.68
Wool, lb., cents	54.2	64.5	64.5	63.3
Barley, bu., dollars	1.83	1.34	1.34	1.32
Oats, bu., dollars	1.181	.864	.864	.848
Sorghum grain, cwt., dollars	3.58	2.62	2.62	2.57
Soybeans, bu., dollars	...	2.98	2.98	2.92
Apples, for fresh use, bu., dollars	2.84	2.85	2.85	2.80
Beef cattle, cwt., dollars	16.04	22.10	22.10	21.70
Calves, cwt., dollars	19.98	24.40	24.40	23.90
All chickens, live, lb., cents	33.7	28.2	28.2	27.6
Eggs, doz., cents	63.6	47.3	47.3	46.2
Hogs, cwt., dollars	21.52	21.60	21.60	21.20
Lambs, cwt., dollars	17.40	24.60	24.60	24.10
Sheep, cwt., dollars	13.41	9.99	9.99	9.78
Turkeys, live, lb., cents	42.6	36.8	36.8	36.1

Cwt. Movement In Canada Gains

WINNIPEG — The bushel as the basic unit of grain measurement may be replaced by the hundredweight within two years, says E. E. Baxter, chief statistician of Canada's board of grain commissioners. Mr. Baxter's unit is studying the possibility and a report may be ready for the government this spring.

If the change is made, Mr. Baxter's department will face the task of converting nearly 40 years of Canadian grain statistics and records from bushels to pounds but he favors the change. "The bushel is not a reflection of true volumes or true values," he said, "and the sooner a change is brought about, the better."

Mr. Baxter feels that change in the U.S. to the hundredweight would speed the change in Canada and that the two should be made at the same time.

Support for the change has been given by the four western grain-handling co-operatives, the North-West Line Elevators Assn., the Canadian Feed Manufacturers Assn., the Canadian Millers Assn., and the Canadian wheat board and district farmers.

Morton Salt Markets New Anti-Bloat Salt

CHICAGO—Morton Salt Co., Chicago, has begun marketing a new salt and penicillin mixture for minimizing the incidence and severity of bloat in cattle grazing on legume pastures, the company announced.

The announcement said the new product, Morton "Anti-Blote" salt, is the result of more than two years of research by Mississippi State College into the cause and treatment of bloat.

"Tests sponsored by Morton and conducted by Mississippi State College indicate that procaine penicillin, the active ingredient in 'Anti-Blote' salt, is highly effective in minimizing the ineidence and severity of bloat, and fatalities resulting from bioat," the announcement stated.

The salt mixture is fed free choice to cattle, and the company estimates that 10 lb. salt are sufficient for 10 animals for 30 days. The product is packed in polyethylene-lined 10 lb. boxes and 50 lb. drums and each batch is dated. The salt will be available in all states east of the Rocky Mountains.

SMALL'S DEHYDRATED ALFALFA

More than any other natural feedstuff, alfalfa is loaded with good things for poultry, swine, sheep and cattle. And here at the W. J. Small Company it is our constant aim to deliver to your door dehydrated alfalfa that contains the richness of the growing plant. To do this, we maintain the finest facilities in the industry for harvesting, processing, storing, and shipping dehydrated alfalfa.

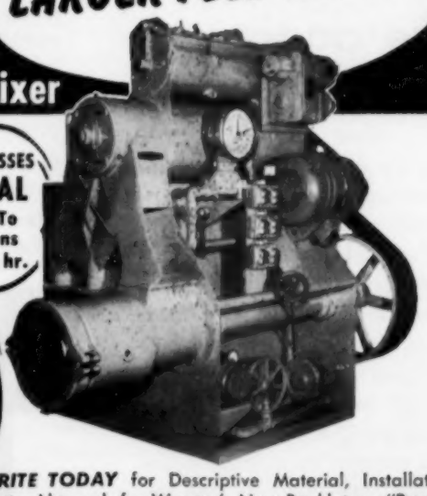
Small's — FOR FEEDS WITH A FUTURE — DEHYDRATED ALFALFA MEAL

THE W. J. SMALL COMPANY
Division
Archer-Daniels-Midland Company

Address Correspondence to Box 556, Kansas City 41, Mo.

NEW!
Wenger Super 75
PACKAGE UNIT COMBINATION
High Molasses Pellet Mill and Feed Mixer

for the LARGER FEED MILLS



MOLASSES MEAL Up To 20 tons per hr.

HI-MOLASSES PELLETS Up To 6 tons per hr.

✓ All Elements of Pellet Production Coordinated for Easy One Man Operation
✓ Major Savings in Installation and Operation Costs
✓ Every Part of This Integrated Unit—Feeder, Mixer, Pump, Molasses Controls and Pellet Extruder Built In and Coordinated with Every Other Part

Now, with this new high capacity Molasses Pellet Mill, major formula feed mills can produce the finest High Molasses Pellets with a single package unit designed and engineered for minimum costs per ton of production—for minimum installation and operation costs—for ease and efficiency in operation. This compact unit—the result of Wenger's 20 years of experience in producing High Molasses Pelleting Systems, is operated with Wenger's new Horizontal Pellet Cooler to produce the finest in Hi-Molasses Pellets.

WRITE TODAY for Descriptive Material, Installation Prints. Also, ask for Wenger's New Booklet on "Roughage Busting." Smaller Wenger Pellet Mills — capacities from 3 tons also available.

Wenger Mixer Mfg. Co.
SABETHA, KANSAS Phone 111

Standard of the Industry for Molasses Feed Mixing and Pelleting Equipment

MANEY BROS. MILL & ELEV. CO.
Minneapolis, Minnesota
Distributors in the Upper Midwest States for
SMALL'S DEHYDRATED ALFALFA MEAL

Now Available To Feed Manufacturers .....EVERYWHERE!

Ray Ewing
Swine Pre-Mix "D"
with DYNAFAC*

Ray Ewing
Cattle Pre-Mix "D"
with DYNAFAC*

Ray Ewing
Custom Pre-Mixes with DYNAFAC*

*DYNAFAC — Armour brand of tetra alkylammonium stearate

the NEW chemobiotic

★ that boosts the weight gain in Ruminants 10-15%
★ that knocks out harmful bacteria on contact in the intestinal tract without being absorbed into the blood stream or stored in the animal's tissues.

The following Ray Ewing Company Representatives will gladly furnish full details and assist you in planning formulas to take full advantage of DYNAFAC's low cost for high gains.

Alan Bader
214 24th St.
Ogden, Utah
Phone: 9323

Blomfield-Swanson
6009 Wayzata Blvd.
Minneapolis, Minn.
Phone: LIberty 5-8805

Co-operative Feed Dealers
Binghampton, N. Y.
Phone: 3-3521

Leo Cook Co.
410 Lewis Bldg.
Portland 4, Oregon
Phone: CApital 2-1913

Leo Cook Co.
95 Connecticut St.
Seattle 4, Wash.
Phone: MAin 0737

McKesson & Robbins
All Branches East of
Mississippi River

Earl R. Reeves
R. D. 2, Box 639A
Lancaster, Penn.
Phone: TRinity 2-8482

The Tommy Thompson Co.
3617 Dryden Road
Fort Worth, Texas
Phone: WAlnut 3-0005

Henry P. Wilder
P. O. Box 81
Dallas Center, Iowa
Phone: 7541

1097 SO. MARENGO AVE. THE Ray Ewing COMPANY PASADENA 5, CALIFORNIA

COLORADO FORMULA FEED CONFERENCE

(Continued from page 52)

being carried out at the present time, he predicted, will save dairymen considerable cost. The feed industry has a real opportunity in assisting the dairyman to do a better job in the future, he emphasized.

Farmer Speaks

Joseph Willett, manager of Sinton Dairy Farms of Colorado Springs, spoke on "Practical Dairy Feeding." Recent Colorado A&M graduate, Mr. Willett mentioned the rapidly changing conditions in the dairy business and told of the feeding program at his farm to increase milk production. Roughage is the backbone of his program, he said, making use of the "wonderful roughage machine" called the rumen.

The roughage is mostly alfalfa, high in protein, food value and other nutrients. He said alfalfa alone is not the answer to the dairyman's feeding problem, however. An alfalfa program must be supplemented with a concentrate feed. Mr. Willett said he has come to the conclusion that total milk flow is based completely on how much energy he can get into the cow; without it she cannot produce milk. Therefore, he has cut the protein, vitamins, and minerals in the diet. These, he emphasized, are procedures which are directly opposite to the general mode of thinking these days, but they have worked very well on the Sinton farm.

Pelleted Ration

Grains and other feed products which are high in fiber have been cut back considerably so that oats as well as bran have been greatly reduced in the diet of their dairy cows. Corn and milo have been especially used to replace these feedstuffs. In order to get proper utilization of the grains, they found that they must be finely ground. This, of course, in a straight diet proved to be unsatisfactory for the cows since they were not palatable. To get around this problem, they completely pelleted the ration so that now everything the cow eats is in a pellet form.

"We have dropped the protein completely out of the diet. We add absolutely no protein supplement with the exception of a small amount of urea, which is used as a rumen stimulant rather than actually the protein itself. We feel that when you add so much of this carbohydrate material, the rumen bacteria must need the immediately available nitrogen, and the urea is a way of satisfying that demand."

To make the green feeding program carry on into the winter, dehydrated alfalfa is used in the diets of dairy cows in pellet form, which has been shown to increase milk flow under normal conditions. Feeding cows as much as 10 to 12 lb. a day has gotten increases in milk production up to that point. Under ordinary conditions they have found that economical increases run between 3 and 4 lb. a day, and consequently, they seldom go over that level.

Mr. Willet said the quality of hay was important in determining the amount of alfalfa pellets fed to the animals. He felt that the plan which they use could be used by any dairy cattle feeder under similar conditions. It has been tested over a three year period, and they have increased the milk flow of the herd of highly bred Holstein cattle more than 30% over the flow that they had been getting for many years preceding this change.

Feeding for Milk Production

Dr. Gerald Ward of the Colorado A&M dairy department wound up the panel on dairy cattle nutrition by discussing the topic of "Feeding for Milk Production." In outlining this topic he said there are four important points to be considered:

1. The dairy industry is becoming a larger and more specialized type of operation, and the dairyman is devoting more and more of his time to just dairying and not considering other forms of farming.

2. In Colorado the dairyman is a new man. He has very little or no experience in dairying. Dr. Ward pointed out that the feed man can help this type of producer in his feeding operation with the proper information concerning dairy cattle nutrition.

3. This is the point of money making, which is very important. Dr. Ward pointed out that in Colorado we have one of the best prices for grade A milk in the country and feed costs are much lower than they are in many other places. The top quality roughage supplied through some of the best alfalfa hay in the country puts the dairyman in a very favorable position to make money.

4. Dr. Ward stressed the importance of feeding grain to the cows. He said that grain is a very important source of energy in the cow's ration and should be given in adequate quantities for maximum milk production.

Dr. Ward said feed dealers should consider the importance of feeding more grain in their advisory work with the farmers. In line with the previous comments of Joseph Willett, Dr. Ward agreed that in Colorado where high quality alfalfa hay is available, protein for the dairyman is certainly far from being an important part of the ration. Dr. Ward summed up by stating many dairymen would be better off with smaller herds and following a high quality feeding program for more efficient production of milk.

POULTRY: Dr. H. L. Wilgus of Peter Hand Foundation, Chicago, and former head of the department of poultry husbandry at Colorado A&M College, opened the discussion on poultry nutrition. This panel was moderated by Ted Hartung of the Colorado A&M College Extension Service.

Dr. Wilgus outlined the progress made in the poultry industry in feeding broilers and turkeys. He pointed out the importance of a complete ration—well-balanced and well supplemented with many of the known and unknown vitamins and minerals. "We have a big problem regarding quality of meat and bone scrap; soybean meal is a problem which comes and goes with us; cottonseed meal is a problem—all of these things being influenced by the type of raw material and method of processing."

Dr. Wilgus emphasized the importance of economy of gain and rapid

CANE MOLASSES
for feeding purposes

UNEXCELLED QUALITY

WIDE RANGE OF CAPACITIES

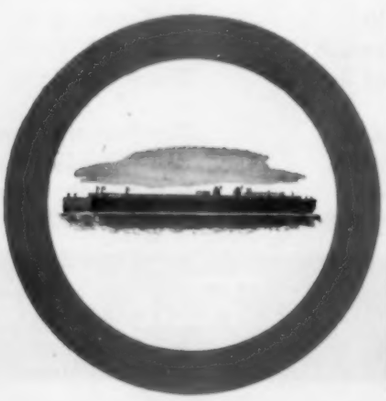
IMMEDIATE OR DEFERRED

SHIPMENTS

North American cane molasses—the quality molasses you can depend on—is now ready for delivery to meet a wide range of your capacity requirements.

You can order by tank car from Philadelphia, Pennsylvania and New Orleans, Louisiana, direct to destination in capacities from 3,600 gallons to 10,000 gallons with intermediate volumes of 4,000, 6,000 and 8,000 gallons. Or, if preferred, shipments can be made in your barges and your tank trucks.

If you require feed molasses for immediate or deferred shipment *it will pay you to write, wire or 'phone . . .*



NORTH AMERICAN TRADING & IMPORT CO.
"Largest Importers of Molasses in the United States"

1429 Walnut Street, Philadelphia, Pa. Phone: Locust 4-1400
101 Arsenal Street, St. Louis, Missouri. Phone: Prospect 6-0858

SILMO
for Vitamin Oils . . . . for Dry Vitamin Supplements

growth for the farmer to make a margin of profit. Consequently, these types of rations are necessitating proper and thorough supplementation and balance. He stressed the necessity of supplying concentrates and supplements to the poultryman so that his poultry diet will be complete and adequate. To utilize these diets properly the feed man should see that good management practices are used where his feed is being fed.

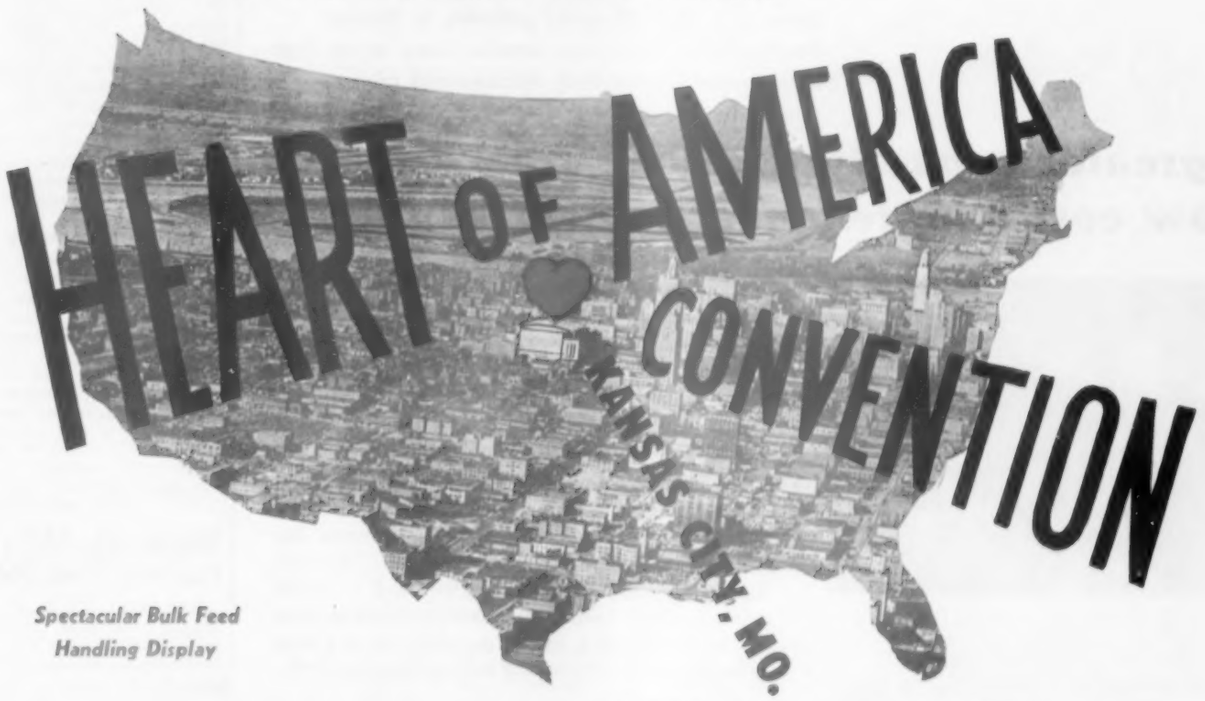
Donald Jackson of Arvada, Colo., a recent graduate of Colorado A&M College, discussed the practical side of poultry and nutrition under the title of "Applied Turkey Feeding." Mr. Jackson, with over eight years experience in the turkey business, outlined a program followed on his turkey farm and emphasized some of the important problems of the producer which he thought should be given strong consideration. He felt that the feed men again could be a big help to the turkey producer by helping him meet some of these problems in their formulated feeds.

Mr. Jackson pointed out that getting sufficient grain into the birds was one of his major problems of production and keeping the birds satisfied to their nutritional requirements. On the Jackson farm, they have found that feeding alfalfa as well as whey products at intervals was helpful in getting efficient gains in their turkeys. He noted that high level feeding of alfalfa to young turkeys is quite contradictory to the general feeding practices and recommendations.

The hot weather in certain times of the year, particularly during the end of the growing period, presents another great problem to the turkey producer. This mainly shows up in the finish of the birds, and Mr. Jackson feels that feeding corn as a scratch grain in supplementation to a good quality supplement is an important part of this finishing pro-

YOUR SPRINGBOARD TO GREATER CONTACTS IN THE HATCHERY INDUSTRY!

EXHIBIT AT APHF's 41st Annual



Spectacular Bulk Feed Handling Display

JULY 16 - 19, 1957

EXHIBIT SPACE GOES ON SALE MARCH 21-22

The initial offering of 85,000 sq. ft. of exhibit space for the 41st annual convention of the American Poultry & Hatchery Federation will be made direct from the Exhibit Hall of the Municipal Auditorium in Kansas City, Mo., Thursday and Friday, March 21 and March 22.

The last previous APHF Convention held in Kansas City was in 1941. Count on a big turn-out of hatcherymen and poultry breeders at the 1957 event. It's our home-coming!

Following the usual custom, the order in which exhibitors will select space at the March 21-22 Space Offering will depend on the dollar volume invested in exhibit space at the 10 preceding APHF Conventions.

It is desirable that exhibitors have a personal representative present March 21-22 to select space BUT THIS IS NOT NECESSARY IN ORDER TO BE CERTAIN OF SPACE —either for old exhibitors or new exhibitors.

Firms finding it inconvenient to have a personal representative present for the initial space assignment March 21-22 should advise the American Poultry & Hatchery Federation headquarters in Kansas City PRIOR TO MARCH 21 how much space is desired. APHF officials will then block out the necessary space for such companies when their respective turns to select space occurs.

Direct all exhibit space inquiries to
ED. G. GRAY, Exhibit Manager
AMERICAN POULTRY & HATCHERY FEDERATION
521 East 63rd St. Tel. EMerson 1-5775 Kansas City 10, Mo.

gram. Milo and corn make up the backbone of the finishing diet in this program, and without them Mr. Jackson has found a very difficult time may be had in obtaining finish on these early birds.

One of the major problems of turkey producers, besides paying the feed bill, Mr. Jackson said, is to keep the birds from going down with weak legs. This is particularly important in heavy toms, and he noted that certain breeds and certain strains of turkeys were more susceptible to leg weakness than others. High level feeding of oyster shell in the diet has greatly reduced the leg weakness problem, Mr. Jackson said. He said their program is somewhat different than that which many turkey producers are aiming at today, inasmuch as they keep their turkeys until they are 30-32 weeks of age. This makes a very heavy turkey, but on the Jackson farm they feel that this extra feeding period pays dividends at market time.

Cage Layer Feeding

Dr. Paul A. Thornton of the department of poultry husbandry at Colorado A&M discussed cage layer feeding. He cited work done at other stations as well as results at the Colorado research farm. He noted that where protein levels were regulated within a reasonable ratio, very little effect seemed to be had on egg production. In cases where increases were noted at different stations, it was pointed out that these increases occurred during the cold winter months.

Dr. Thornton stated that on the basis of 2½ years of work at Colorado A&M research farm and on the basis of research at other stations, it appears that the laying hen in the cage does not need more than about 15% protein, with the probability that this level may even be cut down to a lower amount.

Dr. Thornton pointed out that much more experimental work must be carried out before definite recommendations for cage layer nutrition can be made. However, he said it would seem of considerable benefit to the farmer and the consumer if nutritionists at the present were more conservative in their feed formulation, since very little work has been done for them to base their recommendations upon.

"One further point which we have not discussed is the possibility of a nutritional stress when we feed very high energy levels." These are some of the very important factors which should be considered along with many of the other environmental stresses which a cage layer must try to adjust herself to in the environment in which she must live.

Protein Levels Tested

"In our own work here in Colorado we tested the effect of five protein levels, 11, 13, 15, and 17% in high energy rations. No difference in egg production, feed efficiency, interior egg quality, shell thickness, body weight, gain or mortality were noted among the groups. The 11% ration did produce eggs which were smaller. However, there were no differences between the other three levels. We also determined the percent of eggs less than 24 oz. per dozen and found that the 17% protein diet had considerably more small eggs than the 15% ration, with the 13% ration resulting in slightly more small eggs than did the 15% ration."

Dr. Thornton cautioned the feed men to use common sense in formulating rations and not to try "shotgun" methods which cost the producer more per pound of feed and in many cases not only waste nutrients but do not do as an effective job as one may consider under many conditions.

Summing Up

Hugh Kelley, vice president of the Midwest Feed Manufacturers Assn., then took over for a wrap-up talk of the program. Mr. Kelley pointed out some of the warnings and advice given them by the speakers on the panel during the day, and he especially pointed out the necessity of getting specific feeds to the producers for specific needs and eliminating the shotgun type ration which was mentioned by a number of the panel members.

LABORATORY QUALITY CONTROL
Hormones, Digestibility, Nicarbazin, Urea
Feeds, ingredients, tallow stability,
alfalfa, gossypol, nitrogen solubility
THE POPE TESTING LABORATORIES
BOX 903 Referee Service DALLAS 21, TEXAS

Statesville Mills Begin Poultry Test Program

STATESVILLE, N. C.—Statesville (N. C.) Flour Mills Co. recently completed three large plants to serve as feed testing and experimental production centers.

Included in the project are a six-house unit with a capacity of 45,000 broilers, a second unit with 12,000 table egg layers in production and a third farm to accommodate breeder flocks, and eventually, hatchery egg production for broiler chicks.

Vernon E. Hanson, general manager of the farms, said, "All phases of poultry production probably will be integrated in the setup eventually. This seems to be a developing trend in poultry as well as certain other farming enterprises."

For the time being, the functions of the test farms are: nutrition tests to develop the best ratio of feed consumption to egg or broiler production; commercial production in farm-size units to perfect management practices, and breeding management.

Dr. C. K. Laurent to Join Marbut Milling

AUGUSTA, GA.—Dr. C. K. Laurent will leave his position as head of the poultry department of the University of Georgia to become general manager of the Marbut Milling Co., Augusta, Ga., on July 1.

Dr. Laurent was formerly on the poultry staff of Alabama Polytechnic Institute and has been head of the University of Georgia poultry department since 1955.

SELLS FEED BUSINESS

PRINCETON, WIS. — Giese Lumber Co. has sold its feed business in Neshkero to Carl Mace, Montello.

Dean and Alan Dungan, partners in Farmers Certified Mills Company, Lawler, Iowa wrote that their Bryant Double-Duty Hammermill gives:

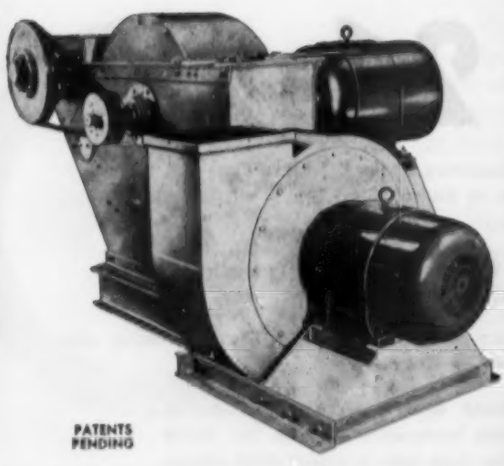
"greater capacity - trouble free grinding low cost maintenance - power savings."

They also said, "These facts are why we bought another Bryant Double-Duty for a new mill we just completed."

INSTANT SCREEN CHANGE

is just one of the facts the brothers Dungan of Lawler, Iowa liked about their Bryant Double-Duty.

The Bryant Simplex Screen Changer lets you change to any one of three screens from the work floor without stopping the mill. There is never any feed leakage—the screen enters from top of the mill, slides freely into grinding position and is locked securely by the exclusive Bryant screen lock. You can insert an extra screen manually in less than 30 seconds without loosening bolts or using any tools.



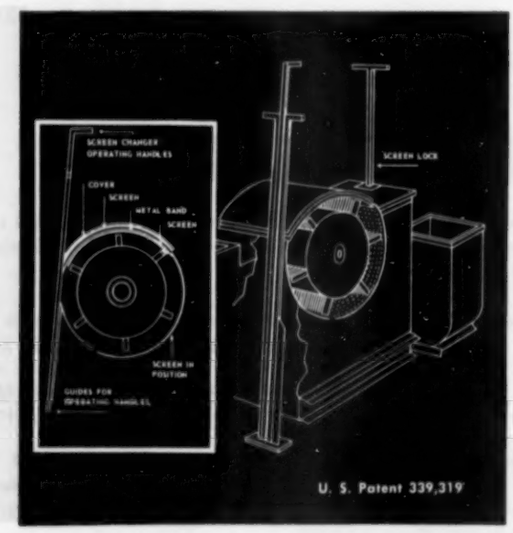


Diagram above shows operation of the Bryant Simplex Screen Changer

IF YOU WANT THE SAME COMPETITIVE ADVANTAGES DEAN AND ALAN DUNGAN HAVE, WRITE US FOR THE COMPLETE BRYANT DOUBLE-DUTY STORY.

Bryant

DOUBLE DUTY HAMMERMILL
BRYANT ENGINEERING CO.
1514 Tenth Ave., Port Huron, Mich.
Quality — our most important product for 45 years.

GOVERNOR'S PROCLAMATION—Governor Stratton of Illinois receives a tempting platter of eggs and bacon as he presents Stillman Standard (right), state secretary of agriculture, with a proclamation designating March as egg month. Illinois egg month chairman, Clair Hendrix, Herscher hatcheryman, presented the governor with a basket of Illinois eggs as representatives of the Illinois poultry and feed industries look on. From left to right are L. A. Schafer, hatcheryman and Stuart Parks, egg dealer, both of Springfield; Elmer Roth, Honeggers' & Co., Inc., Fairbury; Dexter Obenhause, Illinois Feed Assn. president, Princeton; Clarence Emms, poultry superintendent, state division of markets; Gerald Weaver, Illinois Poultry Improvement Assn. president, Williamsfield; Frank Honegger, poultryman, Forrest; and Dave Forman, head of division of markets, Springfield.

Western Beef Raisers To Continue Promotion

SAN FRANCISCO—Western grain-fed beef will continue to be promoted during 1957 to follow up a successful advertising campaign during the year just ended.

Representatives of the California Cattle Feeders Assn., the California Cattlemen's Assn., and the Western States Meat Packers Assn. meeting in San Francisco, decided to continue their contributions to the western beef advertising program for this year.

Media to be used chiefly include trade magazines circulating to some 25,000 public eating places in the nine western states.

According to reports delivered at the meeting, definite progress was made in 1956. Many large restaurants and hotels, including some hotel chains, have discontinued featuring eastern beef on their menus, and are now featuring western beef, the reports pointed out.

Other western states may also start to contribute to the campaign, it was said at the meeting, to make it more intensive throughout the area.

Pillsbury Improves Centerville Plant

CENTERVILLE, IOWA—Pillsbury Mills, Inc., has announced a number of improvements in its Centerville feed plant. The changes are part of a long-range modernization program at Centerville, company officials said.

Improvements include the installation of bulk storage equipment for liquid fats and fish solubles, a fork lift operation for faster and more efficient handling of sack feeds, and additional tote bins for faster bulk loading.

Improved sewing machine equipment has been installed for more efficient production of sack feeds.

The company has also installed modern packaging facilities for the production of Pillsbury dog food, all of which is manufactured at the Centerville plant.

make 10¢ per dozen
MARKETING TOP QUALITY
EGGS

Learn how you can make big money marketing TOP QUALITY Eggs for nearby Egg Producers. Yes, as much as $60.00 per week from each Food Store to whom you loan a FRESH EGG MERCHANDISER to do your egg selling. You lease case for $24.00 per month. No investment. Write today for money-making plan.

TOBIAS Enterprises
225 North Michigan Ave., Chicago 1, Illinois

PEPSIN 1:3000, N.F.
SPOT and FUTURES
H. REISMAN CORPORATION
114 Liberty St., New York 6, N. Y.
Beekman 3-8445

The most complete line of DOG FOOD ingredients
from ONE source
BOXER BRAND

44% SOY CAKE-LETS
expeller, pea-size
CORN KIB-LETS
expanded . . . kibbled
CORN FLAKES
cooked . . . toasted
WHEAT KIB-LETS
expanded . . . kibbled
WHEAT FLAKES
cooked . . . toasted
EXPELLER SOY BEAN MEAL
and other ingredient specialties

Nowhere else can you secure such a major part of your dog food ingredients. By combining your ingredient purchases in cars, mixed cars or LCL you are assured of freshness, and better inventory control with lower inventory investment. BOXER ingredients are manufactured by us specially for dogs—they are "prime" products, and not "by-products." Write for current prices and literature.

RALPH WELLS & CO.
QUALITY DOG FOOD INGREDIENTS
MONMOUTH, ILLINOIS

Mitchell, Hutchins & Co.

. . . can help make your business operations safer by protecting you against market fluctuation and inventory losses.

HEDGE your soybeans, soybean oil and soybean oil meal in the futures market. It's the inexpensive way to take the risk out of your ingredients.

Call, wire or write us today for information.

One Wall St.
New York 3
Digby 4-0700

231 S. La Salle St.
Chicago 4, Ill.
STate 2-1700

113 S. Court Ave.
Memphis, Tenn.
JAckson 7-1603

MEMBERS
Chicago Board of Trade
Memphis Board of Trade
New York Stock Exchange
and Other Principal Commodity and Security Exchanges

★ Buy and Sell Through WANT ADS ★

COLUMBIA QUARRY

FREE BROCHURE
on Columbia Quarry's original Dust-Free, Easy-Mixing, Free-Flowing Calcium Products. Send now for complete information . . . Write:
COLUMBIA QUARRY CO.
1007 Washington Avenue
St. Louis 1, Missouri

Continued Climb in Poultry Meat Consumption Forecast by USDA

WASHINGTON—Civilian consumption of chicken, which hit a record high in 1956 with 23.4 lb. per capita, is expected to reach a new record of 24.5 lb. in 1957. The 1957 total, if achieved, will be approaching twice the 1935-39 average of 13.2 lb. according to the national food situation report released by the USDA.

Turkey is also showing a steady rise, and a new record of 6.1 lb. per capita is forecast for the coming year. That amount is three times the 1935-39 average.

But while turkey and poultry consumption will be up, the consumption of eggs per capita is expected to be slightly lower. Per capita consumption is expected to drop one egg from the 363 eaten per person in 1956.

Large supplies of chicken meat well into the spring are indicated by the greater number of broiler chicks now being raised, and the increased number of broiler type eggs in incubators. Supplies are expected to continue somewhat above the year earlier. Any output reduction due to lower prices, however, "will be moderated by the system of financing which continues to play an important part in broiler production," the report says.

Retail prices of ready-to-cook fryers, the only class of poultry meat for which retail price information is collected, averaged 42.8¢ per lb., down about 15% from 1955, and the lowest in the postwar period.

More Turkey

Much more turkey will be available this year, particularly in the first six months, as indicated by the record large flocks now in storage and larger marketings of breeder hens. More young birds will also be marketed throughout the year. What will happen in the second half of the year will depend on the number of birds raised. The USDA has warned growers that the size of the increase indicated by January intentions will result in serious marketing problems by mid-summer.

Last year retail prices remained at a fairly high level well into the summer because the early supplies were mostly from relatively small storage stocks. But late in the year they fell earlier than usual when marketings from the record turkey crop picked up.

Prospects for meat supplies are that they will be a little smaller than last year, but production will be second only to the 1956 record. Civilian meat consumption per capita may average 6 or 7 lb. lower than last year's rate of 165 lb., however, which was almost 40 lb. more than the 1935-39 average.

Pork consumption may fall 4 lb. per person below the 1956 rate of 67 lb., due mainly to the smaller supplies. Prices will be higher than last year, but not up to the high levels of 1953 and 1954.

Beef consumption is expected to be about 81 lb. per person, a little below last year's record of 84 lb., but still far above the 1935-39 average of 55 lb. Retail beef prices are expected to be a little higher than last year, particularly for the choice grade. Slaughter may equal last year, but the average weight probably will be down. Severity of drouth in a number of cattle raising areas will have an important bearing on the number of cattle slaughtered and on beef output during the year, USDA says.

College Advises Bulk Feed for Farmers

LAFAYETTE, IND.—A Purdue University news release is suggesting to farmers that they consider using bulk feed.

W. S. Faris, agricultural economist at the university, has told farmers that they can "save both time and money by having feed delivered to their farms in bulk," and he notes that a number of Indiana elevators and feed mills now offer bulk delivery service.

He mentions labor savings and lower prices. At the same time, he mentions limitations, such as driveway requirements, more accurate planning of feed purchases, and possible modification of a feeding program to all-mash.

Meat-Type Hog Goal

SAN FRANCISO—A larger number of western raised and fed meat-type hogs is the goal of a number of western meat packers.

Members of the pork and provision committee of the Western States Meat Packers Assn. have advised members to encourage greater production of these animals and to report on the progress made. The recommendation was made at the 11th annual meeting of the association in San Francisco.

You Sell The Best When You Sell GRAN-I-GRIT

THE GRIT WITH THE SHARPEST GRINDING EDGES EVER CUT

You are insuring your Future Profits when you sell GRAN-I-GRIT . . . the BEST Poultry Grit . . . because GRAN-I-GRIT will repeat in ever increasing volume for you.
That's WHY Dealers and Jobbers have become so enthusiastic about selling GRAN-I-GRIT.

GRAN-I-GRIT'S Sharper Grinding Edges Release More Nutrients from Feed

GRAN-I-GRIT with the sharpest grinding edges ever cut, grinds feed finer in the gizzard. Finer grinding of feed releases more nutrients for every pound of feed consumed.
These EXTRA valuable body building nutrients that GRAN-I-GRIT gives are a great aid in speeding growth, body development and weight gains of broilers and in getting more profitable feed conversion.
Top broiler growers and egg producers use and recommend GRAN-I-GRIT. They know from experience that GRAN-I-GRIT is the finest profit producing grit they can use.
GRAN-I-GRIT is insoluble. It will not dissolve and does not change the mineral balance of feed.

It's a Fact . . . GRAN-I-GRIT Has *Eye Appeal* for Poultry of All Ages

Poultry must consume the proper amount of grit to get maximum results from feed and GRIT MUST HAVE EYE APPEAL before poultry will eat it.
Side by side tests have proven that chickens and turkeys of all ages prefer a light gray grit with black specks . . . THE GRAN-I-GRIT TYPE . . . as much as 10, 15 and even 100 to one over grit of other colors.
When poultry raisers know this fact they insist on GRAN-I-GRIT.

HERE IS NEWS

Learn how GRAN-I-GRIT Research Proved FEEDING Larger Sizes of GRIT Makes More Money for Poultry Raisers.

There is a new GRAN-I-GRIT circular that explains in detail this new GRAN-I-GRIT feeding method that makes more money for poultry raisers. You, as a poultry grit Dealer or Jobber should write for a Free copy at once.
GRAN-I-GRIT is packed in 10 lb. and King Size (App. 22 lbs.) Feeder Packs and 25, 50 and 80 lb. bags.

NORTH CAROLINA GRANITE CORPORATION
MOUNT AIRY NORTH CAROLINA

SCROGGINS GRAIN CO.
Phone FE 5-3913 — Teletype: MP 344
WHOLE and GROUND GRAINS and SCREENINGS
MINNEAPOLIS, MINNESOTA

Cancer can't strike me, I'm hiding.

Cancer?

The American Cancer Society says that too many people die of it, NEEDLESSLY! That's why I have an annual medical checkup however well I feel. I know the seven danger signals. And when I want sound information, I get it from my Unit of the

AMERICAN CANCER SOCIETY

Bag more business

with feeds containing

DR. SALSBURY'S

3-Nitro

Brand of
3-Nitro-4-Hydroxyphenylarsonic Acid

Superior Growth Stimulant for Poultry, Pigs and Hogs

3-Nitro gives you a real opportunity to boost sales with superior poultry and swine feeds fortified with a *low cost*, but *highly effective* growth stimulant. 3-Nitro is not only recommended by leading authorities, it is also preferred by growers because it:

- STIMULATES FAST, UNIFORM GROWTH
- REDUCES UNFAVORABLE BACTERIA LEVELS
- IMPROVES FEED UTILIZATION
- ACTIVATES EARLIER EGG PRODUCTION
- PROMOTES INCREASED EGG PRODUCTION
- SUPPRESSES BLOODY SCOURS IN SWINE

Investigate 3-Nitro now . . . no single feed ingredient costs so little and does so much for both you and your customers!

for comprehensive data on 3-Nitro and WORMAL write for Feed Manufacturers' Guides

Offer Poultry Feeds with The Most Effective Wormer Of Them All!

DR. SALSBURY'S

WORMAL

GRANULES

Increase sales with a feed containing palatable Wormal Granules that *remove worms other wormers miss*. Only Wormal contains DR. SALSBURY'S *exclusive Butynorate* plus *Piperazine* and *Phenothiazine* . . . removes almost 100% of Tapeworms, Large Roundworms, and Cecal worms.

Proven effective and economical on millions of chickens and turkeys. Widely advertised. Plan now to offer poultry feeds containing Wormal.

FEED PRODUCTS DIVISION

DR. SALSBURY'S LABORATORIES
Charles City, Iowa

Nation-wide service to the feed industry

Dr. SALSBURY'S

Test Results Reported On Use of Baciferm

NEW YORK—Feeding tests using Baciferm, the new supplement developed by Commercial Solvents Corp., have resulted in heavier birds with better feed efficiency and lower mortality, according to a joint announcement by Commercial Solvents Corp. and The Amburgo Co. at a sales meeting held in New York.

I. Roy Cohen, sales manager, animal nutrition department, Commercial Solvents Corp., and Samuel Golden, president, The Amburgo Co., made the announcement.

They said: "In this test just completed at the Amburgo demonstration farm Baciferm-5 was substituted for other sources of antibiotic and unidentified growth factors included in the formula of the best Maryland University ration. The test ration containing Baciferm produced an extra profit of almost $30 per 1,000 broilers compared to the control ration which was the regular Maryland formula."

Baciferm is the trade name for Commercial Solvents Corp. zinc bacitracin antibiotic supplement.

Merchandising Aid

MALDEN, MASS.—Better display, better promotion and more effective use of available advertising materials are keys to increased sales, according to the first issue of The Big Name, recently mailed to more than 900 Wirthmore Feeds distributors in 17 northeastern states.

Featured in the new company magazine, which is designed to help feed dealers sell farm and building supplies and other related items, are examples of successful dealer promotions and practical hints on merchandising methods that pay off at the cash register.

The first issue also points out the part played by Wirthmore's advertising of farm feeds in over 30 magazines.

Upper San Joaquin Dealers Set Meeting

STOCKTON, CAL. — The Upper San Joaquin Valley district of the California Hay, Grain & Feed Dealers Assn. will meet on March 21 at Marraccini's Inn, 448 So. Hunter St., Stockton.

Orval Vaughan will discuss proposed changes in the intrastate grain inspection program. Reservations are being handled by Rolland Johnson, Eales-Young Grain Co., 304 W. Webber Ave., Stockton.

Kansas Seed Group To Meet July 19-20

WICHITA, KANSAS—The Kansas Seed Dealers Assn. will hold its 11th mid-year convention July 19-20 at the Hotel Broadview, Wichita, it has been announced by O. E. Case, executive secretary-treasurer.

Hales & Hunter Names Sales Representatives

Claude A. Biles J. C. Newsome

CHICAGO—Claude A. Biles, Chelsea, Mich., and J. C. Newsome, Greensboro, N.C., have been named sales representatives for Hales & Hunter Co.

Mr. Biles, who has 10 years of sales experience in feeds, has been with Vitality Mills, Inc., Chicago, the past two years. He will be sales representative in eastern Illinois.

Mr. Newsome has been named to serve northern Kentucky. He previously was a salesman for Swift & Co., Chicago, in North Carolina.

5 New Honeggers' Dealers Announced

FAIRBURY, ILL.—Honeggers' & Co., Inc., Fairbury, Ill., has announced that the following dealers have been added to those handling the company's line of feeds and related supplies: O. J. Dickman, Dickman Farm Supply, Monona, Iowa; Howard Hughes, Hughes Feed & Grinding Service, North Adams, Mich.; Warren Garrison, Garrison Poultry & Egg, Renwick, Iowa; Ronald Fross, Clayton (Ill.) Feed Mill; and James E. Carter, Shabbona (Ill.) Hatchery Store.

A-C Sales Increase

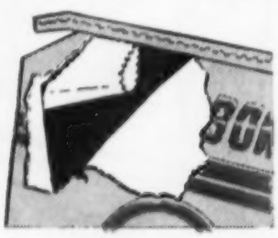
MILWAUKEE—Sales for Allis-Chalmers Manufacturing Co. continued to climb in 1956 with the company reporting net sales of $547,439,265 as compared with net sales of $535,069,085 in 1955. This is an increase of more than $12 million.

Net earnings for 1956 amounted to $20,355,045 or $2.42 per share of common stock as compared with $24,805,326 or $3.03 in 1955.

Dividends paid on common stock for the year 1956 amounted to $16,044,658. On the outstanding preferred stock $635,857 was paid making a total of $16,680,515 in dividends for the year.

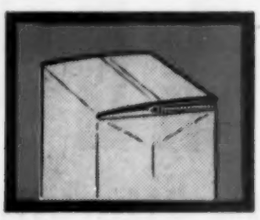
New Developments at A&S

THE TILTED VALVE BAG



This new closure was developed by one of our customers to prevent sifting of fine materials, and is now offered on standard A & S bags without upcharge. The Tilted Valve is a must for the fertilizer and rock products industries, which have long been seeking a multiwall bag combining an automatic closure with a positive, sift-proof seal.

THE ARKTITE BAG

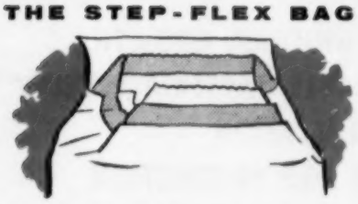


The new A & S Arktite Bag is not only sift-proof and tamper-proof, but also capable of standing upright on packing lines and shelves. It has thermoplastic seals throughout and liners of paper, film or foil.

THE ZIP-TOP MULTIWALL BAG

Already a favorite with multiwall users from coast to coast, the A & S Zip-Top is typical of the trend-setting features you find on our bags. This new easy-opening construction is available on any A & S multiwall at no extra cost.

THE STEP-FLEX BAG



A new multiwall bag soon to go into production. It is triple-sealed top *and* bottom with the unique Step-Flex closure, forming a sift-proof barrier against product loss or contamination. This new closure provides three multiwall layers, staggered and pressure-glued both ways in overlapping fashion.

OTHER POPULAR A & S BAGS

SUPER-RUFF— non-slip bags
LAMO-PAK— moisture barrier bags
LOCK-RITE— sealed valves
DUK-PAK— sheds water

To get the whole A & S bag story — particularly as it applies to your own products — we suggest that you write directly to Arkell & Smiths, Packaging Division, Canajoharie, New York.

A&S

ARKELL AND SMITHS

Executive Offices: 500 Fifth Ave., New York 36

Manufacturing Plants at:
Canajoharie, N. Y. • Wellsburg, W. Va.
Mobile, Ala. • Hudson Falls, N. Y.

"The Oldest Name in Paper Bags"

STOP SPOILAGE

Now you can effectively cool grain in storage and eliminate condensation and spoilage. The POWERATOR will inexpensively keep your grain in top grade and quality.

Uses 110 Volts. Easily Installed. Thousands in Use.

Only $72.50

☐ Please send my Powerator postage paid. My check for $72.50 is enclosed.
☐ Please send Free Literature.

NAME
STREET
CITY STATE

ROLFES GRAIN AERATION COMPANIES

Light Alters Turkey Hens' Egg Laying

CORVALLIS, ORE.—Prof. J. A. Harper of Oregon State College reported recently on research showing how turkey hens' egg laying habits can be changed by regulating the "length of day."

The idea, he says, is to make hens lay eggs in all seasons—not just spring—so that producers in mild climates like that in Oregon can hatch and grow turkeys for fresh markets the year around.

Noting that changes in length of day can affect egg laying habits, Prof. Harper kept hens in darkened pens where their "length of day" could be controlled.

Starting in August, he kept eight-month-old hens on nine hours of light a day for three weeks. Then he used artificial lights along with regular daylight to give the hens a day length of 17 hours.

During September-November, the hens laid about half as many eggs as they normally lay in the spring—almost enough to make the idea practical, Prof. Harper said. He said he believes that the hens can do better, however, and he plans other approaches to the problem.

Drouth Mars California Sheep Feeders' Outlook

SAN FRANCISCO — Sheep raisers of the Sacramento Valley have had almost record feed costs this winter as a result of an extended drouth in December and January, according to the California Wool Growers Assn.

Sheep have been kept in winter quarters on hay and other feed as long as three months. Ewes and spring lambs were not moved out of winter quarters onto native pasture land until late February or early March, in many cases.

But the growers' group reports that prospects are now more encouraging. Late, heavy rains in February and early March have brought good growth of the pastures.

Illinois Swine Growers Day Set for April 16

URBANA, ILL.—A program aimed at helping swine growers cut costs in producing high-quality, meat-type hogs is planned for the 1957 Illinois Swine Growers' Day to be held April 16 on the University of Illinois campus.

Set for the morning program, which begins at 10:30 a.m., are discussions on "Levels of Feeding Bred Sows and Gilts," "Does Limited Feeding Affect Carcass Quality?", "Free Choice and Complete Rations on Pasture and Drylot," "Levels of Oats in Rations for 100-lb. Pigs" and "Programs for Selecting Meat-Type Hogs."

Featured speakers in the afternoon will talk on "Which Way in the Hog Business—Boom or Bust?", "Modern Pork Merchandising" and "A Hog Program That Works for Me."

Inspection of the swine farm is set for 8-10 a.m. A luncheon will be served at noon.

Raymond Allbright Dies at Age of 62

ROCHESTER, N. Y. — Raymond Allbright died recently in a Rochester, N. Y. hospital at the age of 62.

Mr. Allbright was formerly with the B. F. Goodrich Co., and American Anode, Inc., being president and general manager of the latter company. He was made president and general manager of Distillation Products Industries in 1944. He served as chairman of the board of trustees of Hobart College and William Smith College, both in Geneva, N. Y.

Surviving are the widow, Ruth, a son, Raymond, and a daughter, Mrs. Roger A. Wollenberg.

California Feed Firm Expands Operations

MODESTO, CAL.—The Grange Co. here is expanding its feed mill operation by adding three pellet mills to the six now in use. Output of the company will be increased by about 30 tons per hour, according to an estimate.

Included in the expansion are crumblers and coolers. The addition to the plant is expected to be in operation before May 1. Henry Turner is manager of the poultry feed producing firm.

Hoffman

for complete nutritional service

Hoffman-Taff Inc.

SPRINGFIELD, MISSOURI

Mill or Elevator design and construction: Milling Plants, Storage, Grain Elevators, Warehouses.

Frame or Fireproof Construction

Hogenson CONSTRUCTION CO.

722 Flour Exchange · Minneapolis 15, Minn.

Buy and Sell through WANT ADS —In— FEEDSTUFFS

New and Exclusive!

A low-cost, high-quality base for locally mixed feeds and concentrates

Swift's Pow-R-Pac® Base | Another Swift Service to better your margin!

Broiler Feed Price $93 per ton f.o.b. your mill

Which margin of profit will be yours? For example—

Will it be $10.80 as you mix your feeds the usual way with concentrate and grain? . . . or will you double the margin with Swift's Pow-R-Pac® Base? We feel sure you'd like to cut ingredient costs to the minimum. Now Swift is ready to show you how.

These examples were figured with midwest ingredient prices but the principle holds true, whatever your location. Egg mash with a selling price of $76 can be made with Pow-R-Pac Base for $61.39 . . . hog concentrate that sells for $93 will cost you only $76.32 when you use Swift's Pow-R-Pac Base.

What's more, you'll add new quality to your feeds with THE PICK OF THE PROTEINS supplied by Swift. Rich in animal-source proteins, Swift's Pow-R-Pac Base provides key minerals and important unidentified factors. And, Swift's technical counsel is available when you want formulation suggestions.

When you mix your feeds with Swift's Pow-R-Pac Base, you mix all the know-how and research of Swift's Feeds into your feeds. You're sure you are right nutritionally. Call, write or wire Swift's Feed Department, Chicago 9, Illinois.

Swift 102ND YEAR

FEED DEPARTMENT, CHICAGO 9, ILLINOIS

New Feed Developments Bring Mixing And Merchandising Problems

By Dr. T. W. Perry
Purdue University

One relatively small feed manufacturer in 1947 purchased 29 different kinds of ingredients and manufactured four different kinds of feeds. In 1955, the same manufacturer regularly purchased 63 different kinds of ingredients and manufactured 20 different kinds of feeds. As is probably supposed, a part of this was due to increases in number of clients, and thus an increase in different kinds of mixed feeds required. However, in the decade since 1947, many new developments in the field of animal nutrition have assumed their new but proper roles in feed formulation. Therefore, one of the major problems facing the small to medium sized feed manufacturer is how much and how many kinds of the countless numbers of ingredients should be carried in his inventory.

For example, should a combined antibiotic-B_{12} supplement be carried or should these two ingredients be carried separately. Furthermore, if the antibiotic and B_{12} are carried in separate supplements, how many kinds of antibiotics should be carried? And still for a further breakdown, what potencies of each individual antibiotic should be on hand? One manufacturer of one of the active antibiotics for swine sells four different antibiotic supplements to the feed trade. The only apparent difference between these four antibiotic supplements is the potency, or level of antibiotic, contained per unit weight of the supplement.

In addition to the problem of kinds and quantities of feed ingredients to be carried in inventory is the problem of numbers of finished feeds to be registered and sold. As an example, one relatively large feed manufacturer registers with the Indiana state feed control official the following versions of the 32% Purdue cattle supplement A—(1) as is with no additives; (2) with 5 mg. stilbestrol lb.; (3) with 40 mg. antibiotic per lb., and finally, (4) both 5 mg. stilbestrol and 40 mg. of antibiotic per lb.

Only the Beginning

And it looks like this may be only the beginning since it appears we have only started in the field of beef cattle nutrition research. Even with our large numbers of kinds of finished feeds needed to meet the demands of poultry, swine, beef cattle and dairy cattle feeders, the end is not in sight because promising research in lamb pens at Purdue indicates the feed manufacturer is going to be called upon to manufacture relatively complicated feeds for lambs. So the problem of increasing inventories of ingredients and finished feeds appears to be growing.

EDITOR'S NOTE: The ever-increasing complexity of modern feeds is creating a number of problems for the small to medium-sized feed manufacturer. How much and how many of the countless ingredients used in modern feeds should he carry in his inventory? What can he do about the blending, storage, mixing, accuracy, machinery and research necessary to keep up with the rapidly changing feed developments today? These were some of the problems brought out by Dr. T. W. Perry, of the department of animal husbandry, Purdue University, when he spoke before the Purdue Marketing Clinic at Lafayette, Ind., recently. This article is taken from his talk.

The problem of certain physical qualities peculiar to certain feed ingredients is of economic importance to feed manufacturers. Many of our modern finished feeds require the addition of up to 5 or 6% of stabilized animal fats. This particular additive poses the problem of adding, blending and especially, the formation of relatively small pellets that will not crumble.

In this same area is the problem of adding liquid molasses. When suggested formulas for cattle supplements containing molasses are distributed to cattle feeders, the question arises as to how they get the molasses blended with the dry ingredients. The mixing of molasses, however, does not entail a real mixing problem. Rather, this falls into an economic category as to whether the small to medium sized feed mixer can afford an efficient machine that will blend the molasses fairly homogeneously. The feed mixer who is just launching a molasses blending service in his business must have some general knowledge of the relative absorbability of various feedstuffs for molasses.

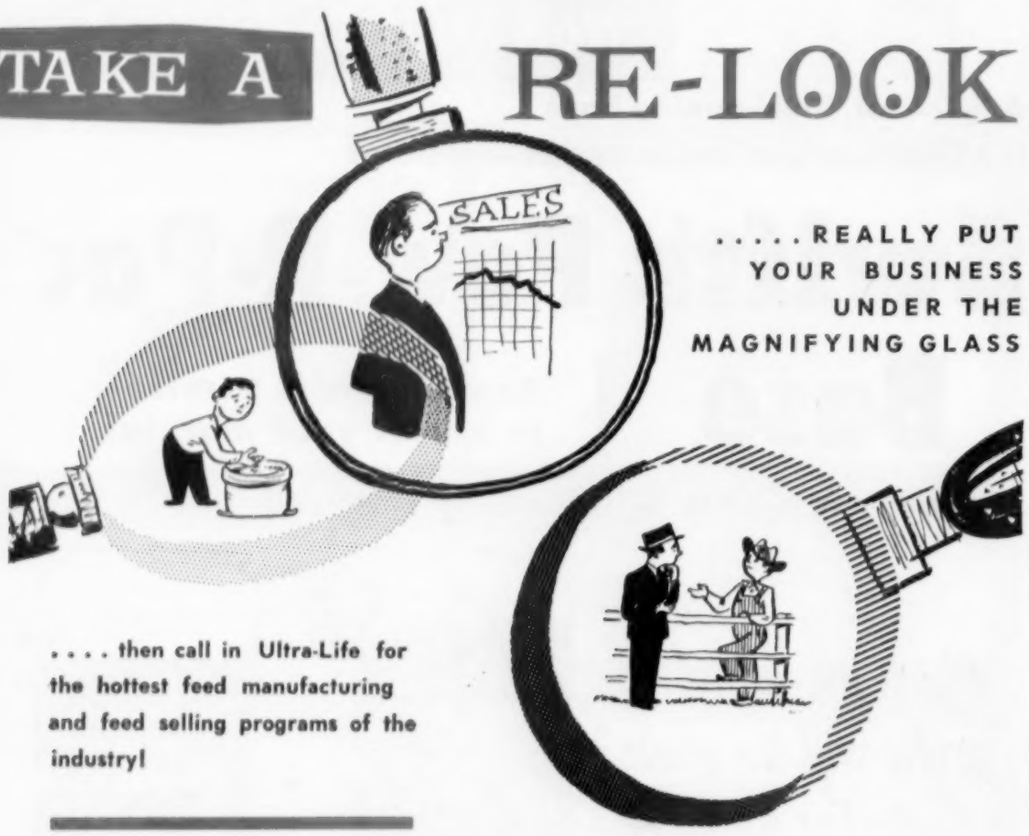
Absorbability for Molasses

	% Absorption
Gluten feed	7
Dried distillers grains	5
Expeller process soybean oil meal	10
Extraction process soybean oil meal	5
New process linseed oil meal	7
Old process linseed oil meal	9
Dried brewers grains	9
Cottonseed meal	15
Bran	15
Ground oats	20
Hominy	22
Corn meal	15
Oat mill feed	40
Ground corn cobs	40
Dehydrated alfalfa meal	30

Then after the feed mixer has the molasses blended into a feed, how does he keep the feed from "setting up" and becoming so hard it can scarcely be used? Some feed manufacturers use lecithin to prevent the "set up." Others attempt to "cure" their molasses-blended feeds prior to sacking. At any rate, these and many other problems face the feed mixer who wishes to use liquid molasses in his feeds.

Further, an economic problem has

TAKE A RE-LOOK



. . . . . REALLY PUT YOUR BUSINESS UNDER THE MAGNIFYING GLASS

. . . . then call in Ultra-Life for the hottest feed manufacturing and feed selling programs of the industry!

Big things have been happening for feed manufacturers at Ultra-Life Laboratories . . . developments that put and keep Ultra-Lifed Feed Manufacturers years ahead of competitors. Want to cash in on the hottest programs? Retain old customers, bring in new ones? If you do, then the Ultra-Life Program is tailor-made for you . . . write today . . . let us give you full details on the feed manufacturing and feed selling programs unmatched in the industry. Write today . . . you'll be glad you did!

Ultra-Life LABORATORIES, INC. Main Office and Plant East St. Louis, Illinois
One of the country's oldest and largest manufacturers of vitamin and trace-mineral products.

RILEY Feed Company
BROKERS— COMPLETE LINE OF FEED INGREDIENTS
939 BOARD OF TRADE KANSAS CITY 5, MO. BALTIMORE 1-2960

entered the picture in that liquid molasses is selling for twice the amount today that it sold for one year ago. Since molasses is a by-product of the sugar manufacturing process, there is little prospect of increasing the available supply of this ingredient so beneficial to beef cattle. Unfortunately, the scientist has not been able to reveal what there is about molasses that makes it so desirable for the well-being of the friendly little rumen microorganisms. Therefore, it does not seem logical that a suitable substitute for molasses can be produced in the very near future.

Other liquid feed ingredients can present problems to the small to medium sized manufacturer. One of the newer liquid ingredients is phosphoric acid as a source of phosphorus. Since acids tend to destroy certain metals, special precautionary methods must be employed to utilize phosphoric acid. In addition, these liquid ingredients pose storage problems and flow problems.

Age of Micronutrients

We seem to have entered upon an age of micronutrients as additions to finished feeds. In the days when hogs were fed out on corn and tankage—nothing else—the hogs didn't grow too rapidly. But at the same time the feed salesman or manufacturer didn't have to worry about how many milligrams or micrograms of certain ingredients had been added and whether these minute amounts were homogeneously blended in each sack of finished feed.

Since the days of corn and tankage as the only ration for swine, we have traveled far—but not nearly as far as we can expect to go. For instance, we have found that a large part of the "Necro" in swine is of a nutritional nature which can be either prevented or cured by the addition of certain B-vitamins. Therefore the pharmaceutical trade was called into the feed trade to supply B-vitamins. The feed manufacturer must incorporate these important B-vitamins into swine supplements if they are to produce competitive results and thus make repeat sales. It would not be too difficult to add these new ingredients if they were in pound quantities. However, in the case of one of the B-vitamins—riboflavin—2 mg. per pound of total mixed ration, or 4,000 mg. per ton of total mixed ration is the level recommended by many. When one considers that a good plump grain of wheat weighs 60 mg., some perspective of the minuteness of the riboflavin added can be gained.

If a baby chick consumes only two or three oz. feed per day, can you be sure it is getting all of the trace amounts of the various nutrients required? The feed manufacturers believe their finished feeds are blended well enough that a tablespoon out of one sack has almost the identical chemical analysis of a spoonful taken from the same batch 20 sacks later. However, it appears that the feed manufacturer is being called upon to weigh out and blend in more and more micronutrients.

What effect is this trend going to have on the small to medium-sized feed manufacturer? It is already raising problems and will continue to raise problems. It would seem that the solution for this problem would be a trend toward more and more pre-mix packages. Thus a feed manufacturer who did not have the facilities for weighing out ingredients to the fraction of an ounce might buy a 10-lb. package of premix to be added to each ton of protein supplement. This package would need to contain the vitamins, antibiotic and additional growth factors needed to fortify one ton of protein supplement. Perhaps "pre-packages" may not be the

(Continued on page 84)

HAYES and STOLZ
INDUSTRIAL MANUFACTURING COMPANY

Hayes & Stolz competent engineers and experienced manufacturing personnel offer you wide experience gained through many years of building feed mill machinery.

We specialize in designing and engineering complete modern feed mills.

WE BUILD FOR
FEED PLANTS & GRAIN ELEVATORS

Horizontal Mixers
Vertical Mixers
Molasses Mixers (Hot Process)
Molasses Mixers (Cold Process)
Molasses Strainers
Molasses Pressure Pumps
Molasses Metering Pumps
Screw Conveyors & Accessories
Screw Feeders

Manually and Electrically Operated Distributors
Holding Bins and Hoppers
Bucket Elevators
Dust Collectors
Flexible Car Loading Spouts
Rack and Pinion Valves
Pneumatic Operated Valves
Mill Spouting and Valves
Oat, Barley and Milo Steamers

Electric Cradle Type Truck Lifts
Continuous Batch Weighing Systems
Complete Feed Plant Engineering Service
Distributors of
Jacobson Hammer Mills
Richardson Automatic Bagging Scales

We invite your inquiries. Write today

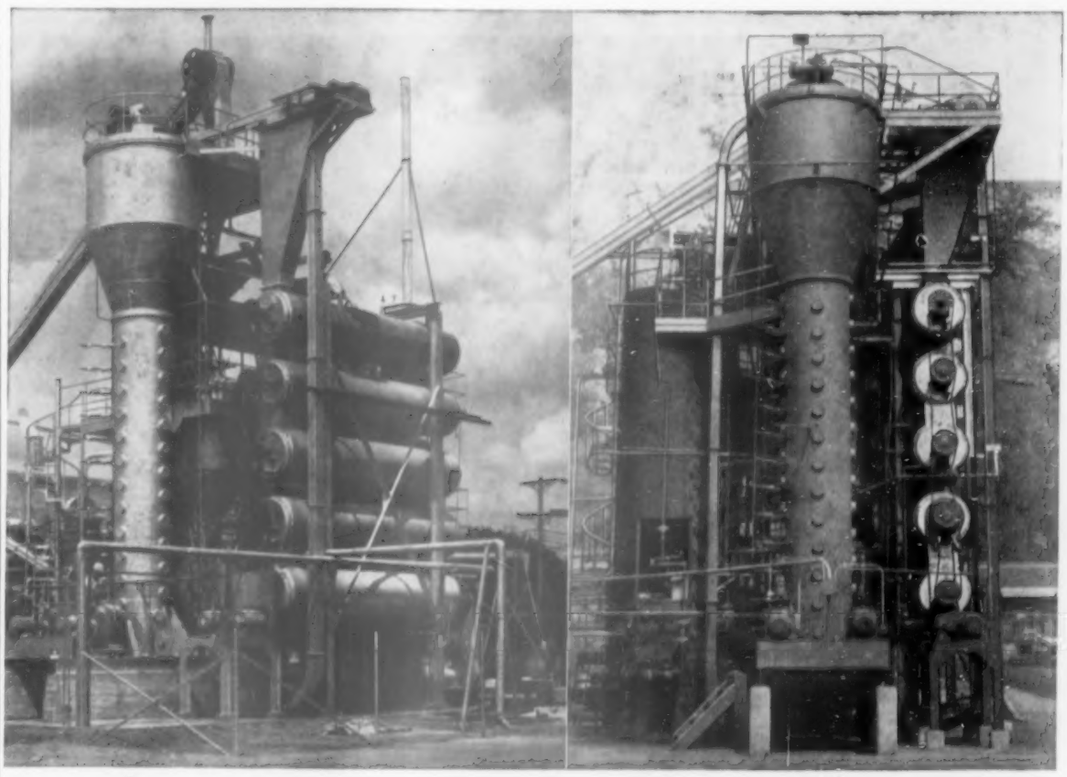
PROVED IN SERVICE
Hayes & Stolz INDUSTRIAL MANUFACTURING CO., INC.
3524 SOUTH JENNINGS FORT WORTH 9, TEXAS

SAVE UP TO
$40 A TON
on MOLASSES
WITH
SU-CO-LASS

Su-Co-Lass gives the taste, color and aroma of Blackstrap Molasses at a cost of only

$11.50 per ton

WRITE TO
FLAVOR CORPORATION OF AMERICA
3037 N. CLARK STREET • CHICAGO 14, ILLINOIS



7 WAYS BETTER...

ANDERSON SOLVENT EXTRACTION PLANTS

Anderson Solvent Extraction Plants give you more efficient installation, better performance and operation in these seven different ways.

1. Reduction of hazard due to outdoor operation.
2. No costly building required to house plant.
3. Easy, fast installation . . . arrives on your construction site largely assembled.
4. Quality oil and meal.
5. Adaptability of plant to other materials.
6. Quality, trouble-free equipment.
7. Anderson engineers are available to supervise construction and start your plant.

If you are in need of a solvent extraction plant . . . write, phone or wire today for an obligation-free survey of your plant.

THE V. D. ANDERSON COMPANY
Division of International Basic Economy Corporation
1944 W. 96th St., Cleveland 2, Ohio

Broiler Needs Spur Texas Egg Production

BIG SPRING, TEXAS—Rapid expansion of caged hens in west Texas is now being equaled by heavier type birds to produce eggs for the broiler industry.

At Big Spring, farmers are building facilities for 5,000 hens, with the eggs to be sold to a large southwestern hatchery. Goal for the area is 50,000 birds. Similar projects have proven popular in other parts of west Texas.

One disadvantage to caged hens in Texas, according to Jay Cunningham, local feed dealer, is the lack of laws setting egg standards. At present any trucker can sell a load of eggs without grading or labeling them, he said. During the warm months many dealers from hundreds of miles away come into Texas and beat down the market by selling thousands of crates of inferior eggs at almost give-away prices, Mr. Cunningham said.

With broiler hens, however, flock owners have been guaranteed a price of 60¢ doz. minimum. The company leases the cockerels to producers, provides a specialist to work with the flocks, and then hauls the eggs from the local egg depot to one of its hatcheries.

Another factor in this popularity of the heavier hens is that they can be kept on the floor. Many existing farm buildings can be converted into laying houses at small expense.

CALIFORNIA FIELD DAY

SAN FRANCISCO—The Central California Wool Growers Assn. will hold a field day and barbecue at the Ospital Ranch near Linden in San Joaquin County on April 14. In addition to the social gathering there will be a discussion of problems of feeding and raising sheep. The association is an affiliate of the California Wool Growers Assn.

Bright Future Seen For Poultry Industry

SALT LAKE CITY — Trevor L. Jones, president of the National Turkey Federation, told some 600 Utah and southern Idaho poultrymen recently that future prospects are basically bright for poultry and egg concerns and that he doesn't fear any large-scale swing to vertical integration in the industry.

"Vertical integration," he explained, "is ownership by one interest of all steps of poultry production —hatching, feeding, slaughtering and marketing, for example."

Despite growing numbers of vertical integration enterprises, he said, the careful operator can hold his own, especially if he utilizes cooperatives.

Looking at the bright side of the industry, he predicted the day will come when the industry will have its share of the consumer's dollar. He emphasized that improved utilization of local and national promotions can help spur the already increasing per capita consumption of turkey, chicken and eggs.

OHIO PRESIDENT INSTALLED — Walter Richards, left, Richards Milling Co., Cortland, Ohio, was elected president of the Ohio Grain & Feed Dealers Assn., Inc., at the 78th annual convention of the group held in the Neil House, Columbus, Feb. 24-26. He receives the best wishes of his predecessor, Stanley E. Salisbury, right, Ohio Farmers Grain & Supply Assn., Fostoria.

Pennsylvania Group Plans Broiler Week

HARRISBURG, PA.—Directors of the Pennsylvania Poultry Federation have asked the Pennsylvania Department of Agriculture to set aside the week of May 4-11 as Pennsylvania Broiler Week, according to an announcement from Homer J. Bicksler, president. Highlight of the week will be the "Chicken of Tomorrow" state finals and auction sales set for May 7-8, Mr. Bicksler said.

The group also passed a motion asking the federal government to discontinue FHA funds for poultry expansion and to discontinue the federal egg surplus purchasing program.

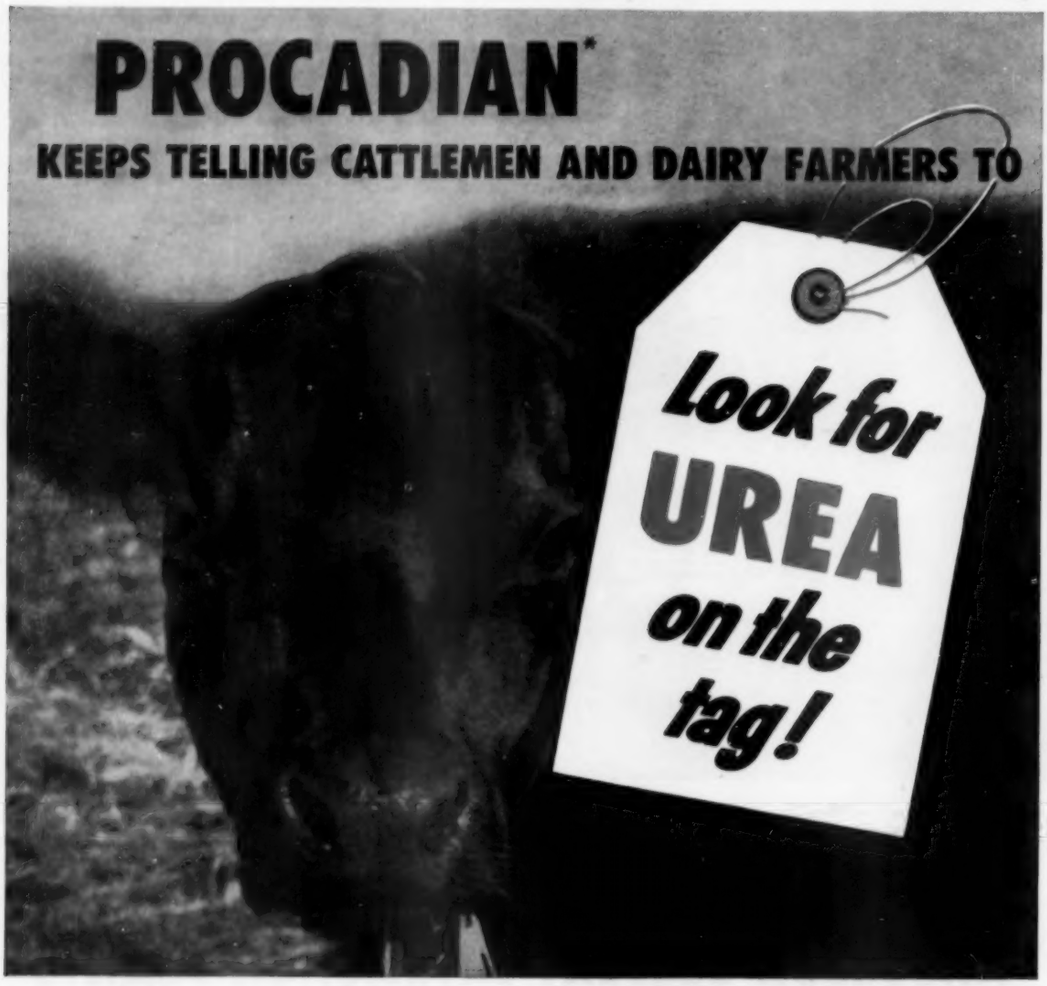
In other actions the board went on record as favoring the proposed Pennsylvania egg grading legislation which is to be presented to the state legislature, and declared themselves in favor of the federal compulsory poultry inspection bill which the Northeastern Poultry Producers Council is supporting in Congress.

Poultry Numbers Up On Canadian Farms

WINNIPEG—Poultry on Canadian farms on Dec. 1, 1956, numbered 48,255,000 birds, or 15% higher than the 41,829,000 on the same date a year before, according to the Dominion Bureau of Statistics.

Number of hens and chickens increased 16% to 44,910,000 from 38,850,000 a year earlier, comprising 27,355,000 hens and pullets (six months or older), compared with 25,040,000 and 17,555,000 other chickens against 13,810,000. Number of turkeys increased 19% to 2,689,000 from 2,254,000, but geese declined 9% to 287,000 from 316,000 and ducks were down 10% to 369,000 from 409,000.

All provinces except New Brunswick reported larger poultry populations Dec. 1, 1956, when compared with a year earlier.



Your high-quality manufactured feeds are the key to profitable feeding programs for roughage-eating ruminant animals. PROCADIAN* Urea in such balanced feeds is an economical, efficient, concentrated source of protein, as well as a means of improving roughage digestion. That is the message PROCADIAN is telling your customers who feed beef and dairy cattle and sheep—in a powerful, continuing advertising campaign in livestock and dairy magazines. PROCADIAN urges these feeders to buy high-quality feeds—with Urea on the tag.

To keep your customers supplied with these profit-building feeds, get PROCADIAN Urea now. Ask for prompt shipment by rail or truck. You get free-flowing fresh stock, packed in moisture-proof bags for maintaining top condition. *Trade-mark

PROCADIAN* UREA
FEED MIXTURE
The QUICK source of protein in mixed feeds

TELEPHONE OR WRITE...

NITROGEN DIVISION Allied Chemical & Dye Corporation

P.O. Box 166, Omaha 7, Neb.	Bellevue 1464	1203 Gervais St., Columbia 1, S. C.	Columbia 3-6676
P.O. Box 98, Ironton, Ohio	Ironton 8-4366	P.O. Drawer 131, Hopewell, Va.	Cedar 9-6301
6060 College Ave., Indianapolis 20, Ind.	Clifford 5-5443	45 N. Snelling Ave., St. Paul 4, Minn.	Midway 5-2864
P.O. Box 188, Columbia, Mo.	Gibson 2-4040	2999 West 6th St., Los Angeles 5, Cal.	Dunkirk 8-3201
P.O. Box 869, Kalamazoo, Mich.	Kalamazoo 5-8676	606 Capital Club Building, Raleigh, N. C.	Temple 3-2801
235 Montgomery St., San Francisco 4, Cal.	Yukon 2-6840	40 Rector St., New York 6, N. Y.	Hanover 2-7300
127 Peachtree St., N.E., Atlanta 3, Ga.	Jackson 2-7805	Export Sales Office, New York 6, N. Y.	Hanover 2-7300

VITAMINS
PRECISION BUILT FOR PRECISION NEEDS
VITINC — VITAMINS, INC.
BASIC MATERIAL MANUFACTURERS and HEADQUARTERS FOR TECHNICAL INFORMATION
Write or Wire Your Requirements
VITAMINS, INC.
809 W. 58th Street, Chicago 21, Ill.

J. B. Sedberry Makes New Appointments

B. B. Cleaney

James W. Cherry

FRANKLIN, TENN.—B. B. Cleaney, factory representative in the Louisiana-Mississippi area for J. B. Sedberry, Inc., Franklin, Tenn., has been named assistant sales manager of the company. He will make his headquarters in Franklin and will work with H. Z. Smith, vice president, in directing the company's sales program throughout the U.S. and abroad.

Mr. Cleaney is a graduate of Louisiana State University and is well known in the feed industry. He has been with Sedberry for a number of years.

James W. Cherry, Stanford, Ky., who joined Sedberry in 1956, has been named manufacturer's representative for Kentucky. He is a graduate of Middle Tennessee State College and previously he was sales supervisor in the southern states for the L. M. Berry Co., Dayton, and manufacturer's representative in eastern Kentucky for the New Holland (Pa.) Machine Co.

Wirthmore Feed Tonnage at Peak

MALDEN, MASS.—At the annual meeting held in the Parker House, Boston, Robert F. McLeod, president, Wirthmore Feeds, congratulated company personnel for "a job well done" and expressed optimism for the future.

Mr. McLeod reported that 1956 tonnage was the greatest in the history of the company and that greater feed sales could be anticipated in 1957.

Dr. Walter Glista, vice president and director of Wirthmore's research program, presented a summary of achievements in this field and showed colored slides of the newly expanded facilities at the research farm in Berkley, Mass., the new mixing equipment for experimental feeds at the Eastern Grain Co., and the recent extension of laboratory facilities at Malden, Mass.

E. S. Moore, director of advertising and member of the publicity department, presented a sound strip film depicting the various services offered by the department.

A tape recording of "The Wirthmore Story" which was recently prepared by the radio staff of Boston University for broadcasting over 23 New England radio stations was also presented to the management group.

Dr. Victor Heiman, director of Kasco dog food research, announced that Kasco's newly completed experimental kennels for dog food research will be ready for occupancy in a few weeks.

Dinsmore Worthing and Granville Bond, executive vice presidents, also spoke briefly.

Drouth Area Grazing Permission Extended

WASHINGTON — Further extension of the program permitting emergency grazing of Soil Bank winter wheat acreage reserve land in certain drouth designated counties in 12 states—from February 28 through April 15—has been announced by the U.S. Department of Agriculture.

The 12 states are Colorado, Iowa, Kansas, Missouri, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas and Utah.

Notification of the emergency grazing extension for winter wheat acreage reserve was sent to the governors and chairmen of state drouth committees in the states. The telegrams authorized the committees to terminate the emergency grazing earlier than April 15 if they determined that such action should be taken. The state drouth committees also were authorized to end the emergency grazing in any counties where they determine such action to be necessary.

Acreage reserve agreements prohibit the grazing of land put in the program except under emergency conditions and then only on certification of need by the governor of the state and with the consent of the Secretary of Agriculture.

USDA Sells Nonfat Dry Milk for Export

WASHINGTON—The U.S. Department of Agriculture has reported sales of 492,000 lb. of Commodity Credit Corp.-owned nonfat dry milk for commercial export. The sales bring the total of CCC-owned nonfat dry milk sold for commercial export to 73,146,604 lb. since May, 1954.

The prices per pound ranged from 7.55¢ to 9.9¢.

when a customer...

Keeps more of his check

you can sell him more **MURPHY'S**

Extra profits for your customers mean extra sales for you. When a customer keeps more of his hog marketing check, he can become a repeat buyer—with a larger order. Murphy's Cut-Cost Concentrate can help hog raisers in your trade area make this extra money.

Your customers can easily prove for themselves how Murphy's makes low-cost gains. Just ask the raiser to put half his fattening hogs on Murphy's and continue feeding the remaining half the way he is now. Ask him to keep a record of feed expenses and gains. He'll see what little cash Murphy's takes to produce "Cut-Cost" pork.

And hog raisers can prove to themselves how their hogs need Murphy's, with a free sample test that often uncovers costly hidden hungers.

Murphy's sells for you through convincing farm paper, radio, and TV advertising. Five out of every six producers in your trade area already know about Murphy's.

And you'll like Murphy's versatility. These Cut-Cost Concentrates will sell as they are bagged, or as a complete feed which you can make with Murphy's Mixing Permit. Either way, you can build a bigger business—and make more money—with Murphy's.

MURPHY PRODUCTS CO., BURLINGTON, WIS.

WORTH CROWING ABOUT!
HILLTOP
"AIDS FOR POULTRY"
Hilltop Laboratories 710 Washington Ave. N. Minneapolis 1, Minn.

NEW FEED DEVELOPMENTS

(Continued from page 81)

most economical method of purchasing micronutrients but the smal'er feed manufacturer may not possess either the equipment nor the skill to properly measure out micronutrients. Our newer knowledge of nutrition causes us to emphasize the importance of sticking closely to recommended levels. The old theory that if a little bit is good, more will be better, does not hold in the realm of animal nutrition. Whereas a small amount of certain nutrients is desirable or essential, a little bit more can exert quite the opposite effect.

The matter of balance between the nutrients of a ration is of very great importance. Therefore, the weighing out of the micronutrients—as well as the principal ingredients—is of utmost importance. An example is in the case of the mineral element, calcium. The National Research Council recommends 100 lb. swine receive 0.65% of their ration as calcium. Yet by raising the level of calcium to 1.0% of the ration we can cause the disease parakeratosis which causes growth cessation and the occurrence of thickened skin and open sores. So the accuracy of weighing out the ingredients—whether it be in pounds or micrograms—is of utmost importance. In the case of zinc addition we recommend the addition of approximately 100 parts per million. If one were mixing a 1 million pound batch of finished feed it would be relatively easy to weigh out 100 lb. zinc and add it to the mixture. However, when one mixes a 2-ton batch, for example, he would need to add about 6.5 oz. zinc to the 2-ton batch in order to incorporate 100 ppm.

The word "contaminated' is one word which any feed manufacturer dislikes to have used in connection with his feed. Yet in the day of extremely potent additives, such as hormone-like materials, we must be cognizant of the potential of contamination. Recently the owners of a fur animal breeding ranch complained to a large West Coast feed manufacturer that the minks would not breed since the purchase of the last batch of feed.

Upon checking back, it was found this particular batch of feed had been mixed following the mixing of cattle supplement containing stilbestrol. Assay of this feed showed a considerable amount of female hormone activity—merely as contamination from the previous batch of feed. It is granted that not many small to medium-sized feed manufacturers distribute finished feed to mink breeders, yet it is an example of the need to have the possibility of contamination in mind since we now are using some very potent materials in our feeds.

Can the small to medium-sized feed manufacturer afford to install all of the machinery and equipment necessary to meet the demands and whims of feed purchasers? Some buyers demand cubes, others want pellets and still others want crumbles. Each of these has its advantages and therefore each kind is desirable under certain conditions. How much machinery — and attachments — can he buy in order to hold this trade and keep it from going to a competitor? He must decide — perhaps with the aid of his banker—how much outlay he can put in specialized machinery.

And finally, the small to medium-sized feed manufacturer probably can not justify the expenses of the services of a full-time nutritionist. How is he going to be kept up to date on the new developments the experiment stations are discovering from day to day? Should he hire the part-time services of a consultant who has no product to sell or should he rely upon the advice of the salesmen from the various companies who call on him from time to time? Both of these are good sources of information. It is extremely difficult for the small manufacturer to select which products he should buy and incorporate and which products he should let go by.

Many things which have given promise may gradually—or occasionally, abruptly—fade out of the picture. I have in mind some of the apparent bloat preventives whose efficacy seemed so good. Yet under practical conditions, the use of the majority of these has waned like a full moon, and now exist as memories of products with a lot of promise but little practicability.

The small to medium-sized feed manufacturer finds he has to act as an extension agent and thus serves a real purpose to the community he serves. He probably reaches a greater number of people in his community than any professional extension agent. He must have a wealth of scientific knowledge and must know how it can be applied under specific farm conditions.

Thus, a few of the problems which face the small to medium-sized feed manufacturer have been presented. It is reasonable to believe that the number of, and complexity of the problems will increase. As we animal nutrition research people continue to contribute to the knowledge of animal nutrition, no doubt this will result in ever-increasingly complex feeds.

Daffin Holds Two Sales Meetings

LANCASTER, PA.—The Daffin Manufacturing Co., Lancaster, Pa., held two sales meetings for its mobile mill division recently. The eastern division met at the Ponte Vedra Beach Club, Ponte Vedra, Fla., and the western division gathered at the Edgewater Gulf Hotel, Edgewater Park, Miss., Thirty-three staff members attended the eastern meeting and 32 were at the Mississippi meeting.

STARTS BULK SALES

VACAVILLE, CAL.—Sutter Basin pellets are now available in bulk, according to an announcement by E. H. Uhl of Vacaville, distributor of the feed products for lambs and steers. The pellets, containing a formula of barley, baled and dehydrated alfalfa, molasses and aureomycin are delivered in bulk to self-feeders, as well as in sacks.

George Schmidt (center), with feed dealer Wilmer Lary (left), and Gene Gourley (right), Spencer Kellogg District Sales Manager, looking at Schmidt Brothers' grand champion herd.

Proven Value

It takes RESULTS to prove value. A protein supplement is better when it produces better livestock! Ask George Schmidt for an example.

George Schmidt with his brother Ferd feed each year about 450 head of Angus on their farm at Delmar, Iowa. They have won the carload grand championship six times at the Chicago International.

They feed Spencer Kellogg Linseed Oil Meal at the rate of one pound per day per head. They will tell you that its extra quality has something that gives cattle the condition that wins grand championships.

Such results are PRACTICAL proof of the value of better feeding and EXTRA value of Spencer Kellogg protein supplement quality. Famous S-K Linseed Oil Meal is still available for your best formula feeds.

SPENCER KELLOGG MEAL SALES OFFICES ARE LOCATED AT:

Buffalo CL 5850 Des Moines CH 4-7291
Chicago FR 2-3437 Long Beach HE 2-4954
Decatur 5365 Minneapolis FE 5-4221
Philadelphia PE 5-0787

SPENCER KELLOGG AND SONS, INC.
BUFFALO 5, N. Y.

KELLOGG'S THE TEST TELLS 1894

Spencer Kellogg Mills are located at: EDGEWATER, N. J. • BELLEVUE, OHIO • CHICAGO, ILL. • DECATUR, ILL. MINNEAPOLIS, MINN. • DES MOINES, IOWA • EL CENTRO, CALIF. • LONG BEACH, CALIF.

Fleischmann's F·I·D·Y
IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

Public Law 480 Shipments Total 3 Million Tons

WASHINGTON—The U.S. Department of Agriculture has reported that during the months July, 1956-January, 1957, exports of agricultural commodities under Title I of Public Law 480 amounted to 3,648,000 metric tons.

Shipments during January, 1957, totaled 503,000 metric tons based on copies of shipping documents received by USDA from exporters under the program.

Title I shipments began in January, 1955, and reached a total of 8,151,000 metric tons as of Jan. 31, 1957.

The commodity breakdown of shipments includes:

Commodity	——January, 1957—— Metric tons	Quantity
Wheat	397,539	14,607,000 bu.
Wheat flour	4,323	9,531,000 lb.
Corn	2,185	86,000 bu.
	July, 1956-January, 1957	
Wheat	2,146,128	78,857,000 bu.
Wheat flour	63,916	140,910,000 lb.
Corn	219,559	8,644,000 bu.
Barley	298,060	13,690,000 bu.
Oats	7,766	535,000 bu.

Freight Assistance In Canada Increased

TORONTO—Canada's department of agriculture has increased the freight assistance rate on western feed grains.

The new rate is $5 a ton to points taking the Montreal freight rate. The previous rate was $4.50 a ton. Points east of Montreal taking a freight arbitrary will now be allowed the basic $5 a ton, plus the full freight arbitrary over the Montreal rate.

The freight assistance policy was inaugurated in October, 1941, as a wartime measure, but has now become accepted as a permanent feature in many areas of trade and government.

Government advocates of the plan claim that it encourages the wider use of western feed grains in eastern Canada and the province of British Columbia, thus increasing the markets for the producers of the feed grains. Secondly, by making cheaper feed available to the livestock feeders it encourages an increase in livestock production, and also promotes wiser cropping by fostering livestock production. Lastly, it helps the consumer, it is claimed, by keeping the cost of livestock production down.

From October, 1941 until Oct. 31, 1956, the government has paid out a total of $251,465,537 on 39,978,949 tons of feed grains and millfeed.

WISCONSIN ALUMNI RESEARCH FOUNDATION

LABORATORY SERVICES

PRACTICAL CHICK FEEDING STUDIES IN BATTERIES OR ON LITTER

DETERMINATIONS OF:

•VITAMIN B_{12} •ANTIBIOTICS •ARSENICALS

A.O.A.C. vitamin D_3 chick assays

U.S.P. vitamin D rat assays — results in 8 days

U.S.P. or A.O.A.C. vitamin A assays

Other vitamin assays

Amino acid assays

Biological protein evaluations

Proximate analyses and mineral determinations

Insecticide Testing and Screening

Other biological, chemical and microbiological services

PROJECT RESEARCH AND CONSULTATION

Write for price schedule

WISCONSIN ALUMNI RESEARCH FOUNDATION

P.O. Box 2059-N • Madison 1, Wis.

WHAT'S NEW IN THE NEW NOPCOSOLS?

Nopcosols make news again. For 1957 we announce a brand-new Nopcosol® for ruminant feed and important modifications in all other Nopcosols for poultry and swine.

New Nopcosol M-10 for ruminant feeds is a skillfully blended supplement incorporating only those vitamins and trace minerals that have been proved nutritionally valuable to the diet of cattle, sheep, and goats. It offers feed mixers fortification that will help their feeds bring breeding stock to top condition, produce healthy and more productive dairy cattle, increase calf crops, and boost size and weaning weight.

New Nopcosol M-5, M-6, M-7, M-8 and M-9, for every type of poultry and swine feed, have been reformulated in accordance with our policy of offering the most advanced feed supplements consistent with the latest proved nutritional values. They now contain new and proved levels of necessary vitamins, as well as antibiotics, growth stimulants, amino acids, and trace minerals to help you give your customers more efficient, higher quality feeds, and to help make their operation—and yours—more profitable.

TWO IMPORTANT FEATURES REMAIN UNCHANGED

1. Nopcosols are blended and packed in convenient, batch-sized bags that make every millhand an expert nutritionist.
2. The potency of Nopcosol-fortified feeds is guaranteed when made • when mixed • when fed

Ask your mixer for the complete story

50 Years NOPCO

NOPCO CHEMICAL COMPANY

Harrison, N.J., and Richmond, Calif.

Basic producers of Micratized® Vitamins A and D, niacin, calcium pantothenate, choline chloride, and other products

NOPCOSOL®

CONTACT YOUR NEAREST NOPCOSOL DISTRIBUTOR

Van Waters & Rogers, Inc.
10216 Denton Rd.
Dallas 9, Tex.
Tel. Fleetwood 77331

Merchants Chemical Co., Inc.
605 Leavenworth St.
Omaha 8, Neb.
Tel: Atlantic 4755

A. G. Greene Company
Commercial National Bank Bldg.
Charlotte 2, N.C.
EDison 2-2174

Edward E. Smith & Co.
Glenn Building
Atlanta, Ga.
Tel: Jackson 2-8417

Pless and Sheahan
Suite 728 M&M Bldg.
Memphis 2, Tenn.
Tel: 6-6411

Maney Bros. Mill & Elevator Co., Inc.
Minneapolis 4, Minn.
Tel: Dupont 2351

M. & D. Sales Co. Inc.
East Market St.
Snow Hill, Md.
Tel: 281

P. R. Markley, Inc.
Lafayette Building
Philadelphia 6, Pa.
Tel: LOmbard 3-6838

Sunset Feed & Grain Co., Inc.
805 Sun Building
Buffalo 2, N.Y.

R. A. Erb and Company
60 Alta St.
Arcadia, Calif.
Tel: DOuglas 7-6757
RYan 1-9782

Kuder Pulp Sales Company
Lake Alfred, Fla.
Tel: 2-9451 - 2-8112

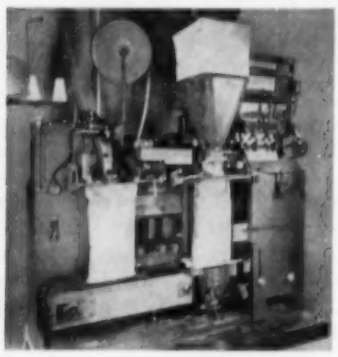
Worth Looking Into

New Products
New Services
New Literature

This reader service department announces the development of new and improved products, new services and new literature offered by manufacturers and suppliers. Claims made in this department are those of the firm concerned. Use the accompanying coupon to obtain the desired information.

No. 5673—Automatic Packaging

The St. Regis Paper Co. announces that "fully automatic packaging has now been extended to the filling of open mouth multiwall bags with the development of its St. Regis VredOMatic packer which makes it possible to fill open mouth multiwalls and sew them closed with or without



boundover tape automatically. The VredOMatic packer is used in combination with a St. Regis pre-weighing scale." The packer positions, opens, fills, closes and sews, with or without tape, open mouth multiwall bags holding 25 to 125 lb. of granular, free-flowing materials such as feeds, sugar, ammonium nitrate, polyethylene pellets and similar products. It can also handle semi-free-flowing materials with auxiliary equipment, depending upon the characteristics of the materials. The company claims that "open mouth bags can be filled and closed automatically. The system provides accurate weights at a speed which matches or exceeds the production of most scales used in conjunction with open mouth packers. Bag closures are tight and accurate since the system provides for proper control of the gussets and the bag top at all times during filling and sewing." It is said that one man can handle three or more machines. From 6-12 bags per minute per packer can be handled, it is claimed. Secure complete details by checking No. 5673 on the coupon and mailing it to this publication.

No. 5675—Vibrator

A new leatherette-bound 36-page catalog on "Peterson Vibrolators" for industrial applications is available on request, according to officials of the Martin Engineering Co. The catalog describes in detail, pictorially and editorially, the action of the all-directional, high-speed vibrator used for the movement of granular matter. Each of the models is shown in photograph with description of characteristics and applications. Specifications and performance data are listed. A variety of suggested mountings is illustrated. The catalog will be sent if you will check No. 5675 on the coupon, clip and mail it to this publication.

No. 5656—Loaders

A new line of tractor-mounted front-end loaders is announced by the Superior Equipment Division of Superior Pipe Specialties Co. The loaders feature a tubular frame, part of which acts as a hydraulic oil reser-

voir. Bucket rams are mounted so that they cannot "spring" and hydraulic piping is enclosed in loader arms for protection. The loaders can be mounted on most models of low silhouette four-wheel industrial tractors. Check No. 5656 on the coupon and mail it to secure complete details.

No. 5672—Bag Conveyor

A new aluminum bag conveyor is being offered by the Burrows Equipment Co. The Burrows "A-Series" conveyor is made of heavy gauge aluminum alloy and has a 12-in. three-ply "Rib-Flex" belt. It is avail-

able in lengths from 10 to 18 ft. The unit can be furnished with three different hydraulic lifts and is made to fold for quick storage in small areas. For further details check No. 5672 on the coupon and mail it to this publication.

No. 5677—Silage Preservative

A new silage preservative, called Suni-Citrolas by the Suni-Citrus Products Co., is said to be highly advantageous for use in silos. Company officials state that "tests made over a period of years show that the product reduces seepage and helps keep silage sweet; helps make silage more palatable; adds dry matter, permitting greater consumption per cow; forms no hazardous gas in silo; adds feeding value, digestible nutrients; is granular, dust-free; and is low in cost." The product basically is citrus molasses in citrus meal, it is said. Feed dealers and manufacturers wanting more information about the product, check No. 5677 on the coupon and mail it.

No. 5678—Dicalcium Phosphate Report

The Coronet Phosphate Co. calls attention to a report on a study at the Texas A&M College in which dicalcium phosphate was equally as available as pure reagent grade tricalcium phosphate in poultry feeding tests. The report, which appeared in Poultry Science, states that "with tricalcium phosphate as the source of phosphorus in a purified diet for both chicks and poults, it was found that higher levels were required than when dicalcium phosphate was used in order to produce the same degree of calcification and growth." The dicalcium phosphate used in the tests, Coronet points out, was "Di-kal" produced at Texas City, Texas, and it was compared with a pure reagent grade tricalcium phosphate. Coronet has made available copies of the complete report as reported by the authors. To obtain a copy, circle No. 5678 on the coupon and drop in the mail.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number on the coupon and forwarding it to Feedstuffs.

No. 5636—Booklet on pitfalls in managing a small business, Dun & Bradstreet, Inc.

No. 5637—16-page technical report on the feed additive trade named, Armour Dynafac, McKesson & Robbins, Inc.

No. 5638—Two new potencies of vitamin A Palmitate in Gelatin for use as a feed ingredient, Chas. Pfizer & Co., Inc.

No. 5639—Stress product for poultry, Vineland Poultry Laboratories.

No. 5640—Poultry film, Dr. Salsbury's Laboratories.

No. 5641—16 mm. film, "A New

Send me information on the items marked:

- ☐ No. 5656—Loaders
- ☐ No. 5672—Bag Conveyor
- ☐ No. 5673—Automatic Packaging
- ☐ No. 5675—Vibrator
- ☐ No. 5677—Silage Preservative
- ☐ No. 5678—Dicalcium Phosphate Report

Others (list numbers) .....

NAME .....

COMPANY .....

ADDRESS .....

CLIP OUT — FOLD OVER ON THIS LINE — FASTEN (STAPLE, TAPE, GLUE) — MAIL

FIRST CLASS
PERMIT No. 2
(Sec. 34.9, P. L. & R.)
MINNEAPOLIS, MINN.

BUSINESS REPLY ENVELOPE
No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Feedstuffs

P. O. Box 67,

Reader Service Dept. Minneapolis 1, Minn.

WEST COAST
FISH SOLUBLES
LASSEN PROCESS
CANADIAN & FORTIFIED
R. S. WILSON CO.
1206 MAPLE AVE. • LOS ANGELES 15, CALIF.

BUSINESS MANAGEMENT CONSULTANTS
TO THE FEED INDUSTRY

A staff qualified and equipped to help you with problems of—

ORGANIZATION
ADMINISTRATION
PERSONNEL
PRODUCTION
SALES
PRODUCTS
FORMULATION
TRAINING
AND SPECIAL STUDIES

J. H. Burrell, Pres.

We bring to your business an objective, outside viewpoint; unhampered by company tradition, and unrestricted by any tendency to "just leave things alone, and maybe the problem will go away."

You benefit from our 75 years of combined experience in active management functions in the feed industry.

Both large and small companies use our services—on a specific job basis, or on a yearly retainer.

Call or Write for a Personal Interview

JAMES H. BURRELL & COMPANY, INC.
3615 Olive Street Phone—Jefferson 5-0715 St. Louis 8, Mo.

Harris K. Worthington

APPOINTED ENGINEER — Harris K. Worthington has been appointed director of engineering for Allied Mills, Inc., to succeed P. A. Singer, who has retired. L. T. Murphy, vice president in charge of production, made the announcement. Mr. Worthington has been associated with the firm since 1945. He is a graduate of Pennsylvania State University where he received a B.S. degree in architectural engineering. He will continue his headquarters at Peoria, Ill.

Way to Get More Eggs," Chas. Pfizer & Co., Inc.

No. 5642—Product for "stretching" molasses flavor, Flavor Corporation of America.

No. 5643—Mower equipment catalog, Midland Co.

No. 5644—Self-palletized and expendable bulk materials container, Titan Pallet Co.

No. 5645 — Attachment for Ace portable electric blowers for conversion to tank type vacuum cleaners, Ace Co.

No. 5646—Trace mineralized salt with phenothiazine, Diamond Crystal Salt Co.

No. 5647—Horizontal model feed mixer, Sprout, Waldron & Co., Inc.

No. 5648—Side-dump transport body, Baughman Manufacturing Co.

No. 5649—Dog car booklet, Polk Miller Products Corp.

No. 5650—Seed treater attachment for applying two chemicals simultaneously, Panogen, Inc.

No. 5651—Turkey feeding and management book, Wirthmore Feeds.

No. 5652 — Electric tail gate for trucks, 600-lb. capacity, Mid West Body & Manufacturing.

No. 5653—Mink feeding developments, Archer-Daniels-Midland Co.

No. 5654—Booklet on methionine in nutrition of poultry, Chas. Pfizer & Co., Inc.

No. 5655 — All-purpose scale for grain grading, Burrows Equipment Co.

No. 5657—Water-cooled seed germinator, Seedburo Equipment Co.

No. 5658—Crop drying machine, 375 bu. capacity, Shanzer Manufacturing Co.

No. 5659—Antioxidant, Catalin Corporation of America.

No. 5660—Bulletin on store display fixtures, Sitka Store Fixtures Co.

No. 5661—Vibrating feeder with pneumatic drive mechanism, Cleveland Vibrator Co.

No. 5662—Beef cattle film, Chas. Pfizer & Co., Inc.

No. 5663—Electric prod for livestock, Hot-Shot Products Co., Inc.

No. 5664—Bulk feed delivery body, Highway Equipment Co., Inc.

No. 5665—Hammermill, J. B. Sedberry, Inc.

No. 5666—Modified formulas for hog feed supplements, Borden Co.

No. 5674—Bucket elevator for dry, free-flowing materials, capacities from 1,000 to 3,000 bu. per hour, Universal Hoist Co.

No. 5676—Motorized hand truck, Walco Supply Co.

No. 6523—Compost grinding machine for garden or small farm use, W-W Grinder Corp.

LEADER BAG CO. FIRE

MINNEAPOLIS—A fire in the afternoon of March 7 damaged the plant of the Leader Bag Co., Minneapolis. Sol Leader of the Leader firm said operations are continuing despite the damage which centered in the plant's elevator.

PUT GUARANTEED POTENCY RESULTS INTO YOUR OWN FEEDS AT LOW COST!

• YOU'LL INCREASE YOUR FEED SALES! • GET MORE REPEAT BUSINESS!
• GAIN HUNDREDS OF SATISFIED CUSTOMERS!

Feed Manufacturers everywhere are cashing in now on the HIGH POTENCY VITAMIN FORTIFICATION trend in feeds. They know that with JERSEE VITAL-MIN they have a fine PRE-MIX that has never failed to give results of guaranteed potency.

JERSEE VITAL-MIN

A TOP QUALITY MULTI-VITAMIN PRE-MIX

Contains the necessary Vitamins, Antibiotics, Amino Acids, and Trace Minerals. Now you can Vitamin Fortify your own feeds with guaranteed potency for just a few cents a bag. JERSEE VITAL-MIN makes your feeds better, brings you more new business, repeat orders and a host of satisfied customers.

WRITE TODAY FOR DEALER'S SALES HELPS

Jersee jobbers and warehouses from coast to coast are eager to help you stabilize your feeds with Jersee Vital-Min.

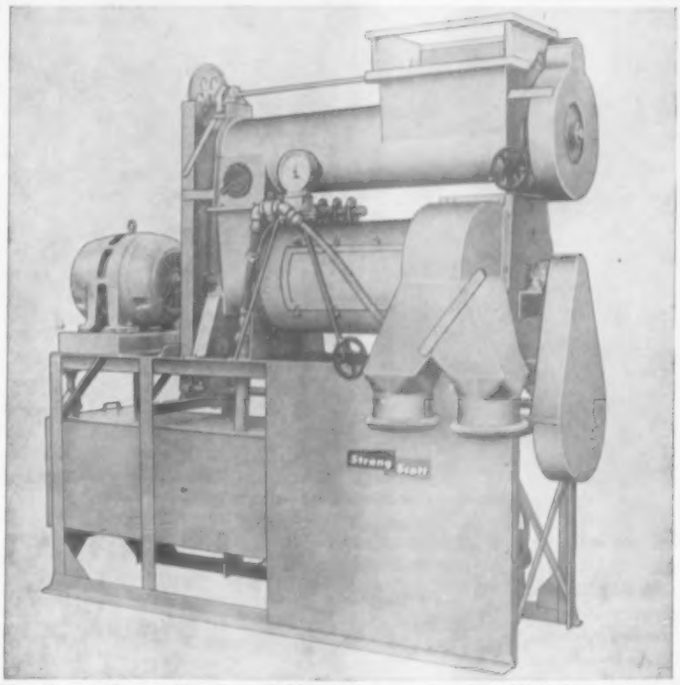
JERSEE-izo TO MAKE PROFITS RISE!

JERSEE
VITAL-MIN
a Pre-Mix
VITAMINS MINERALS

THE JERSEE CO.
MINNEAPOLIS MINNESOTA

Advertisement

BLEND DRY MIX AND LIQUIDS EFFICIENTLY



The Strong-Scott No. 1 and No. 2 Mixers Provide High Percentage Molasses Feeds and Greater Efficiency Through High Speed Mixing.

High Percentages Applied Easily With Strong-Scott Mixers

The Strong-Scott No. 1 and No. 2 Molasses Mixers were designed to mix molasses, animal fats, fish solubles or other liquids with formula feeds efficiently, through high speed mixing. In one compact unit you have a regulated feeder, an agitator type mixer, and an automatically heated and regulated liquid supply—all operated from one direct drive motor.

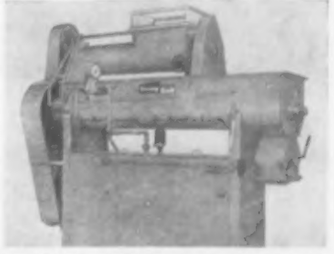
Another big feature of these mixers is the high capacity output. Up to 7 tons per hour can be mixed with the No. 1, and 12 tons per hour with the No. 2 Mixer.

Every phase of operator convenience has been built into these mixers. Manual and visual control over both the dry mix and liquid supplies, as well as a double sacker discharge with two-way selector. All these controls are within easy reach of the one man required to operate the mixer.

Clean-out doors are provided on both the front and back of the mixing chamber for fast, easy cleaning. A customer service tap on the outlet side of the meter, lets you furnish metered, bulk liquids for resale at any time. The liquid supply tank has a capacity of approximately 100 gallons.

PORTA-BLEND MIXER—A new, custom-designed, portable, low cost mixer. Gives extremely accurate blending of molasses, fats, or fish solubles with formula feeds.

TWIN ROTOR MIXER—A slow speed mixer for light, bulky ingredients provides maximum molasses application. Mix up to 24 tons per hour.



UNI-BLEND MIXER—A complete liquid supply and application system which automatically heats, measures and applies any liquid to dry feed. Contains a high capacity, slow speed twin rotor mixer. 5 to 30 tons per hour output.

SEE
STRONG-SCOTT
PRODUCTS ON DISPLAY
BOOTHS 16 THRU 20 NATIONAL
FEED INDUSTRY SHOW
CHICAGO, ILLINOIS

For complete information on any or all of the mixers shown here, write to Strong-Scott in care of the Department shown below, and specify which you are interested in.

The Strong Scott Mfg. Co.
Equipment Designed for Better Processing
451 TAFT STREET N.E., MINNEAPOLIS 13, MINNESOTA
Dept. FS-316

CONSULTANTS
TO THE
FEED INDUSTRY
C. W. SIEVERT and ASSOCIATES
Room 1335
221 N. LaSalle St. Chicago 1, Ill.

CONVENTION CALENDAR

New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear ahead of the ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

March 27—Texas Cage Clinic; Memorial Student Center, Texas A &M College, College Station, Texas; chm., Ben Wormeli, extension poultry husbandman.

April 16—Illinois Swine Day; University of Illinois, Urbana, Ill.; chm., Dr. D. E. Becker, Department of Animal Science.

July 9-10 — Cornell Poultrymen's Get-Together; Cornell University, Ithaca, N.Y.

July 19-20—Kansas Seed Dealers Assn.; Hotel Broadview, Wichita, Kansas; sec., O. E. Case, 609 Wiley Bldg., Hutchinson, Kansas.

● ● ●

March 17-18—Quad-State Convention; Martin Hotel, Sioux City, Iowa; sec., Don Suttie, Sioux City Grain, Feed & Seed Assn., Box 341, Sioux City.

March 21-22 — Maryland Nutrition Conference; Shoreham Hotel, Washington, D.C.; chm., Dr. G. Lynn Romoser, Department of Poultry Husbandry, University of Maryland, College Park, Md.

March 31-April 2—Nebraska Grain & Feed Dealers Assn.; Paxton Hotel, Omaha; sec., Howard W. Elm, Trust Bldg., Lincoln, Neb.

April 2-4—Louisiana Market Poultry Show and Chicken of Tomorrow Contest; Bentley Hotel, Alexandria, La.; chm., Clyde Ingram, extension poultryman, Louisiana State University, University Station, Baton Rouge, La.

April 3—Purdue Egg Day; Purdue University, Lafayette, Ind.; chm., David D. Jackson, extension poultryman.

April 4-6 — Animal Health Institute, annual meeting; Greenbrier, White Sulphur Springs, W. Va.

April 8-10 — American Association of Feed Microscopists; Phoenix Hotel, Lexington, Ky.; sec., G. M. Barnhart, Missouri Department of Agriculture, Jefferson City, Mo.

April 10-11—Texas Feed Manufacturers Assn.; Gunter Hotel, San Antonio, Texas; sec., Ben E. Schmitt, 528 Bewley Bldg., Ft. Worth, Texas.

April 12-13—Texas Grain & Feed Dealers Assn.; Gunter Hotel, San Antonio, Texas; sec., Ben Ferguson, 614 Meacham Bldg., Ft. Worth 2, Texas.

April 25-27—California Hay, Grain & Feed Dealers Assn.; Hotel Fairmont, San Francisco; sec., John F. Gilmore, Blue Anchor Bldg., 1400 10th St., Sacramento 14, Cal.

April 25-27—Kansas Grain & Feed Dealers Assn., Broadview Hotel, Wichita, Kansas; sec., O. E. Case, 609 Wiley Bldg., Hutchinson, Kansas.

April 26 — Indiana Cattle Feeders Day; Purdue University, Lafayette, Ind.; chm., W. M. Beeson, Department of Animal Husbandry, Purdue University, Lafayette, Ind.

April 26-May 1—National Fisheries Institute; Edgewater Beach Hotel, Chicago; Mal Xavier, 1614 20th St. N.W., Washington 9, D.C.

May 1-3 — American Feed Manufacturers Assn.; Conrad Hilton Hotel, Chicago; sec.-treas., W. T. Diamond, 53 W. Jackson Blvd., Chicago 4, Ill.

May 5-7 — Louisiana Poultry Improvement Assn.; Frances Hotel, Monroe, La.; chm., Clyde Ingram, extension poultryman, Louisiana State University, University Station, Baton Rouge, La.

May 19-20 — Missouri Grain, Feed & Seed Assn., Hotel Connor, Joplin, Mo.; sec., D. A. Meinershagen, Eagle Mill & Elevator, Higginsville, Mo.

May 20-21 — National Cottonseed Products Assn.; Shoreham Hotel, Washington, D.C.; sec., John F. Moloney, 19 S. Cleveland St., Memphis 4, Tenn.

June 3-4 — Central Retail Feed Assn., Schroeder Hotel, Milwaukee, Wis.; sec., Eldon H. Roesler, 1712 W. St. Paul Ave., Milwaukee 3, Wis.

June 6-8 — Canadian Feed Manufacturers Assn.; Saskatoon, Sask.; sec., A. J. Bunn, Intercontinental Packers, Ltd., Saskatoon, Sask.

June 9-11—Indiana Grain & Feed Dealers Assn.; French Lick-Sheraton Hotel, French Lick, Ind.; sec., Fred K. Sale, 600 Board of Trade Bldg., Indianapolis 4, Ind.

June 10-11—Eastern Federation of Feed Merchants; Hotel Commodore, New York; exec. dir., Austin W. Carpenter, Sherburne, N.Y.

June 11-12 — Montana Nutrition Conference; Montana State College, Bozeman; chm., O. O. Thomas, Animal Industry Department.

June 11-13 — Delmarva Chicken Festival; Laurel, Del.; sec., J. Frank Gordy, Delmarva Poultry Industry, Inc., R.F.D. No. 2, Box 35A, Georgetown, Del.

June 11-13—Alabama Poultry Industry Assn.; Thomas Jefferson Hotel, Birmington, Ala.; sec., P.O. Box 567, Montgomery, Ala.

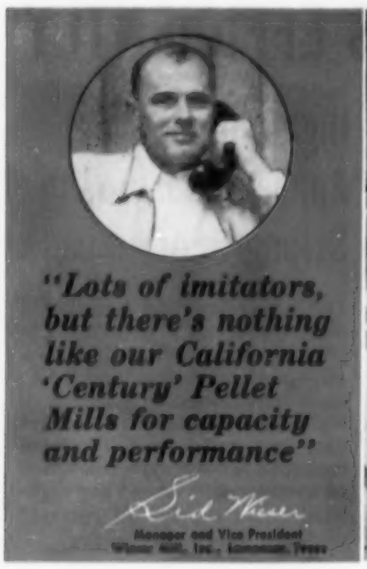
June 17-19—Association of Southern Feed & Fertilizer Control Officials; Dinkler-Tutwiler Hotel, Birmingham, Ala.; sec., Bruce Poundstone, Kentucky Agricultural Experiment Station, Lexington, Ky.

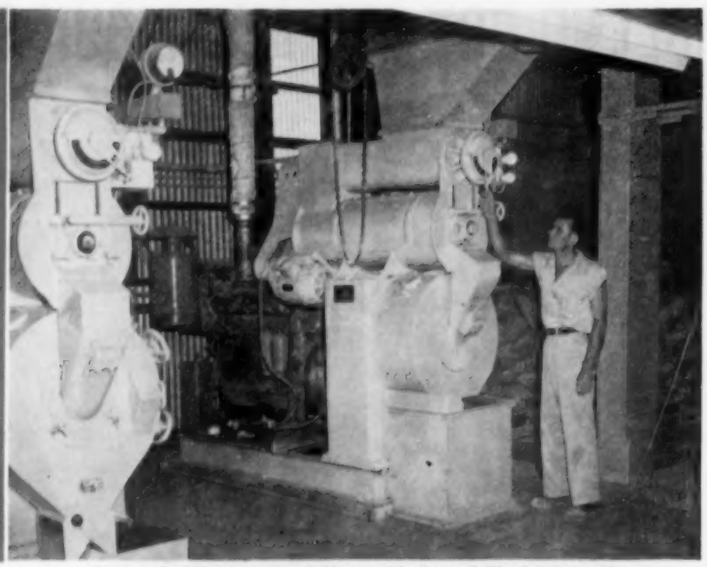
July 16-19 — American Poultry & Hatchery Federation; Municipal Auditorium, Kansas City; sec., Don M. Turnbull, 521 E. 63rd St., Kansas City 10, Mo.

Aug. 15-16 — New England Feedmen Conference; University of Connecticut, Storrs, Conn.; sec., George E. Durgin, Box 345, Wakefield, Mass.

Aug. 19-20 — Kentucky Feed & Grain Assn.; Sheraton-Seelbach Hotel, Louisville, Ky.; sec., Fred H. Schardt, P.O. Box 1914, Louisville 1, Ky.

Aug. 19-20 — Wisconsin Nutrition School for Feed Men; Memorial Union, University of Wisconsin, Mad-


"Lots of imitators, but there's nothing like our California 'Century' Pellet Mills for capacity and performance"
Sid Wieser
Manager and Vice President
Wieser Mill, Inc., Lamesa, Texas



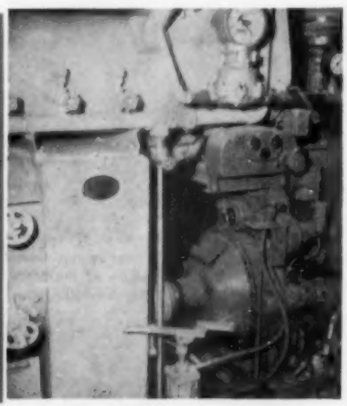
Operator Fred Klebrink sets variable speed feeder on California "Century".

Years of highly successful pelleting experience at Wieser Mill, Inc., brings this comment from manager Sid Wieser: "There are lots of imitators, but there's nothing like our *California* 'Century' Pellet Mills for capacity and performance. Parts service is unexcelled, too . . . overnight from 1500 miles away. That's something! And we've had no repairs or maintenance, other than normal replacement of dies and rollers, for many hundreds of operating hours, working 10 hours a day, 6 days a week. Using diesel drive, we easily average 160 100 lb. bags per hour per mill on 3/16" size pellets.

"As a result, we've standardized on CPM equipment throughout our pelleting operations: mills, coolers, crumblers and shakers. It's all tops."

Take a tip from Mr. Wieser. Specify *California* for performance that means profits. Get full information from your nearest CPM representative.

Adaptability to various drives is demonstrated by the Wieser Mill installations: both CPM "Centuries" are driven by direct-coupled diesels.
Wieser's modern plant produces poultry and livestock feeds, supplies several sizes of pellets from ¼" to ½".



More California Pellet Mills Are Sold Today Than All Other Makes . . . Combined!

CPM CALIFORNIA PELLET MILLS

CALIFORNIA PELLET MILL COMPANY

Best by Every Test!

1800 Folsom St., San Francisco 3, Calif.
1114 E. Wabash Ave., Crawfordsville, Ind.
101 E. 15th Ave., North Kansas City 16, Mo.

Sales and Service Representatives also in: Albany • Atlanta • Columbus • Davenport • Denver • Fort Worth Harrisburg • Los Angeles • Memphis • Minneapolis • Omaha • Richmond • Seattle • St. Louis

Cable Address: Parrheim

P&H GRAIN • FLOUR • FEEDS •

Domestic & Export

PARRISH & HEIMBECKER LIMITED

Export Office — TORONTO, CANADA

WINNIPEG — CALGARY — MONTREAL

William R. Bower

GETS NEW POST—The promotion of William R. Bower to office manager of Central Soya Co. Minneapolis office was recently announced by Dale W. McMillen, Jr., president. Mr. Bower will be responsible for the accounting and office management duties in the firm's new commodity office in Minneapolis and the Central Grain Co. at Red Wing. He is a graduate of Michigan State University and has been associated with Central Soya since 1954.

---

ison, Wis.; co-chm., Gus Bohstedt and Robert H. Grummer, Department of Animal Husbandry.

Sept. 8-10—Grain & Feed Dealers National Assn.; Commodore Perry Hotel, Toledo, Ohio; sec., John C. Bowden, 100 Merchants Exchange Bldg., St. Louis 2, Mo.

Sept. 11-12 — Michigan State Hatchery Conference; Michigan State University, East Lansing, Mich.; chm., Harry E. Hathaway, Michigan State Poultry Improvement Assn., East Lansing, Mich.

Sept. 11-13 — American Pet Food Manufacturers; Drake Hotel, Chicago; sec., R. L. Kathe, APFM Division of American Feed Manufacturers Assn., 53 W. Jackson Blvd., Chicago 4, Ill.

Sept. 18-20 — National Mineral Feeds Assn.; Sheraton Hotel, Chicago; sec., Peter W. Janss, 212 Equitable Bldg., Des Moines, Iowa.

Sept. 26-27 — Arkansas Formula Feed Conference; University of Arkansas, Fayetteville; chm., Dr. E. L. Stephenson, Animal Industry Department.

Oct. 3-4—Texas Nutrition Conference; Texas A&M College, College Station; chm., Dr. J. R. Couch, Poultry Science Department.

Oct. 8-10 — Northeastern Poultry Producers Council Poultry Exposition and Convention; Farm Show Bldg., Harrisburg, Pa.; chm., Alfred Van Wagenen, NEPPCO, 10 Rutgers Place, Trenton 8, N.J.

Oct. 14-16—Virginia State Poultry Federation; Hotel Roanoke, Roanoke, Va.; chm., J. Paul Williams, 615 E. Franklin St., Richmond 19, Va.

Oct. 16-17—Association of American Feed Control Officials, Shoreham Hotel, Washington, D.C.; exec. sec., L. E. Bopst, Room 036 New Chemistry Bldg., University of Maryland, College Park, Md.

Oct. 21-22—California Animal Industry Conference; Memorial Auditorium, Fresno, Cal.; chm., Emery A. Johnson, Box 23415, Lugo Station, Los Angeles 23, Cal.; sec., California Hay, Grain & Feed Dealers Assn., John F. Gilmore, 1400 Tenth St., Sacramento 14, Cal.

Oct. 24-25 — Oklahoma Formula Feed Conference; Oklahoma A&M College, Stillwater; chm., Dr. Rollin Thayer, Poultry Husbandry Department.

Oct. 31-Nov. 1 — Cornell Nutrition Conference for Feed Manufacturers; Statler Hotel, Buffalo, N.Y.; chm., Prof. J. K. Loosli, Stocking Hall, Cornell University, Ithaca, N.Y.

Nov. 7-8—Florida Nutrition Conference; University of Florida, Gainesville; chm., J. P. Feaster, Department of Animal Husbandry and Nutrition.

Nov. 11-16—North Carolina Feed Manufacturers Assn. and allied group convention-cruise to Nassau; chm., W. G. Crawford, Goldsboro Milling Co., Goldsboro, N.C.

Soybean Crushing Efficiency Assessed

WASHINGTON—Soybean crushers can save 7¢ bu. by crushing in a mill operating at a capacity of 400 tons a day, compared with the cost of crushing in a mill that can process only 50 tons a day. A further boost in mill capacity to 1,000 tons a day would save 2¢ more on the bushel.

These were among the findings of the U.S. Department of Agriculture in a recent report. The report showed that significant savings of about 4¢ bu. can result from converting a 50-ton mill to a 100-ton mill, and 3¢ more from 100 to 400 tons, but beyond the 400-ton level, savings in costs are slight.

The report was calculated through the use of model mills checked against equipment and operation of actual mills. It also noted that mills extracting oils by chemical solvents are more efficient than the screw-press type.

A copy of the report giving details of the study, Market Report No. 121, may be obtained from the Office of Information, U.S. Department of Agriculture, Washington 25, D.C.

LA BUDDE
MILWAUKEE, WIS.
MALT SPROUTS
BREWERS GRAINS
DISTILLERS GRAINS
BEET PULP
AND 14 OTHER FEEDS

RESULTS PROVE IT...
Whether it be
Poultry
Hogs
Cattle

The only way to get full benefit from molasses feeding is in concentrated form

SWEETONE
Dried Molasses Concentrate
the TRUE MOLASSES CONCENTRATE

- Requires no special mixing equipment
- Manufactured by a special blending process
- Ideal as a silage preservative

Livestock need and respond to the 42% sugars, the minerals, vitamins and unidentified growth factors in this 85% concentrated pure cane blackstrap molasses. Sweetone requires no special mixing equipment. It's dry—free flowing. It's faster to handle. Never sticky, messy. Never troublesome to feed or mix in either big or small batches—whether by scoop or tractor blender. A special blending process combines Staley's unique new carrier and the finest quality blackstrap molasses. Result—a freshness of flavor and aroma—plus the highest of nutritive values. Sweetone is the most convenient, economical way of adding molasses as a preservative while making silage. Seepage is held to a minimum.

HERE'S WHY YOU SAVE WHEN YOU FEED SWEETONE

ORDINARY MOLASSES FEEDS
Low Value Cobs or screenings for filler
Fewer units of molasses
In most cases these ordinary molasses feeds contain fillers that are already available on your farm. Many even contain low value cobs or screenings.

SWEETONE
Palatable soybean millfeed
85 units of true molasses concentrate
Sweetone contains up to four times as many units of high quality blackstrap molasses. 42% or more in sugars content. It's a standardized best quality product. Every bag the same.

The man who feeds SWEETONE knows it's the profitable way

Clip This Coupon For Full Details
A. E. STALEY MFG. CO.
Dept. 1010, Decatur, Illinois
I want to know more about the remarkable true molasses concentrate and the tremendous profit opportunity it offers me.
Name .....
Address .....
Town ..... State .....

Herman Nagel's
Trace Mineral CONCENTRATE
Where only trace minerals are to be added, Herman Nagel's Trace Mineral Concentrate supplies all eight, in correct balance.
THE HERMAN NAGEL CO.
53 W. Jackson Blvd., Chicago 4, Ill.

U.S. Farm Animal Population by States

Note: Numbers of livestock and poultry on farms and ranches (livestock and poultry not on farms are excluded), Jan. 1, 1957 (000's omitted). Source: USDA.

State	ALL SHEEP AND LAMBS		HORSES AND MULES		CHICKENS								TURKEYS**									
					—Total—		—Hens—		—Pullets—		—Other chickens*—		—ALL TURKEYS— Heavy		—Light—		—Total—		—BREEDER HENS— Heavy		—Light—		—Total—	
	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957
Maine	36	40	12	11	3,890	3,974	758	834	3,038	3,038	94	102	11	14	5	3	16	17	9	11	3	2	12	13
New Hampshire	10	10	5	5	2,855	2,965	629	592	2,197	2,241	129	132	21	21	1	1	22	22	10	9	1	1	11	10
Vermont	13	13	14	13	1,091	1,009	196	165	863	811	32	33	9	10	..	..	9	10	6	6	..	..	6	6
Massachusetts	13	14	7	7	4,183	4,263	993	1,102	3,079	3,048	111	113	55	58	2	1	57	59	31	29	1	1	32	30
Rhode Island	2	2	1	1	472	491	122	134	337	344	13	13	4	4	..	..	4	4	2	2	..	..	2	2
Connecticut	9	10	5	4	3,956	4,069	1,114	1,225	2,742	2,742	100	102	22	21	5	3	27	24	11	10	1	1	12	11
New York	176	186	62	54	12,085	11,600	4,190	4,274	7,394	6,950	501	376	74	77	2	3	76	80	41	41	1	1	42	42
New Jersey	17	18	12	11	16,979	16,569	4,623	4,715	10,623	11,048	733	806	18	19	3	3	21	22	7	9	3	2	10	11
Pennsylvania	269	262	63	58	23,207	23,509	6,833	6,696	14,633	15,072	1,741	1,741	146	152	29	28	175	180	54	55	9	8	63	63
N. Atlantic	535	555	181	164	67,718	68,449	19,358	19,737	44,906	45,294	3,454	3,418	360	376	47	42	407	418	171	172	19	16	190	188
Ohio	1,247	1,257	73	64	16,298	16,612	4,517	4,427	9,282	9,746	499	439	150	170	61	52	211	222	116	123	40	36	156	159
Indiana	541	558	49	41	14,025	14,322	3,830	3,677	9,696	10,181	499	464	39	43	3	3	42	46	21	20	3	1	24	21
Illinois	713	744	71	60	18,187	18,418	5,293	4,975	12,416	13,161	478	282	54	59	6	4	60	63	30	27	3	2	33	29
Michigan	469	404	40	38	10,402	10,612	3,273	3,273	6,669	6,736	460	603	92	88	8	5	100	93	63	60	3	2	66	62
Wisconsin	276	275	84	69	13,578	13,805	4,726	4,496	8,443	8,865	409	450	67	91	14	9	81	100	56	67	6	3	62	70
E. N. Central	3,186	3,238	317	272	70,490	71,769	21,639	20,842	46,506	48,689	2,345	2,238	402	451	92	73	494	524	286	297	55	44	341	341
Minnesota	963	970	98	75	23,368	24,146	6,644	6,046	16,432	17,747	292	353	309	386	41	37	350	423	263	320	35	32	298	352
Iowa	1,277	1,409	88	80	28,055	29,467	6,751	6,346	20,586	22,439	718	682	145	167	9	10	154	177	96	121	4	4	100	125
Missouri	861	897	135	120	14,555	15,099	4,207	4,081	9,566	10,236	782	782	191	229	56	45	247	274	144	155	38	32	182	187
North Dakota	644	667	79	75	3,743	3,844	1,284	1,194	2,315	2,508	144	150	31	35	3	1	34	36	20	21	2	1	22	22
South Dakota	1,329	1,379	79	70	8,310	8,566	2,440	2,416	5,609	5,889	261	261	35	29	3	10	38	39	10	10	1	1	11	11
Nebraska	695	791	85	75	11,167	11,615	2,900	2,697	7,776	8,476	491	442	34	47	2	2	36	49	25	34	1	1	26	35
Kansas	594	606	80	70	10,463	10,891	3,194	2,938	6,767	7,511	502	442	53	54	6	4	59	58	36	34	2	3	38	37
W. N. Central	9,539	9,957	953	835	99,661	103,628	27,420	25,718	69,051	74,798	3,190	3,112	798	947	120	109	918	1,056	594	695	83	74	677	769
Delaware	4	4	3	3	863	848	300	264	523	549	30	35	7	7	2	1	9	8	3	3	1	1	4	4
Maryland	49	51	20	18	2,799	2,853	842	901	1,819	1,837	138	115	23	22	8	10	31	32	18	17	6	8	24	25
Virginia	337	330	118	107	5,767	6,015	1,792	1,917	3,499	3,674	476	424	83	152	145	167	228	319	62	111	98	113	160	224
West Virginia	314	308	67	62	2,823	2,753	1,138	1,104	1,555	1,539	130	110	31	30	40	44	71	74	13	13	24	24	37	37
North Carolina	53	58	231	213	12,523	13,014	4,492	4,537	6,574	7,166	1,457	1,311	55	64	10	5	65	69	38	40	3	2	41	42
South Carolina	8	11	114	107	3,870	4,277	1,478	1,478	2,082	2,353	310	446	74	79	6	4	80	83	63	57	4	3	67	60
Georgia	46	61	138	123	8,231	8,559	3,141	2,890	4,492	5,256	598	413	63	66	..	..	63	66	31	34	..	..	31	34
Florida	5	8	35	34	3,556	3,696	1,525	1,571	1,752	1,840	279	285	21	24	6	11	27	35	13	15	5	10	18	25
S. Atlantic	816	831	716	657	40,422	42,015	14,708	14,662	22,296	24,214	3,418	3,139	357	444	217	242	574	686	241	291	141	161	382	451
Kentucky	593	605	208	193	8,349	8,745	2,908	2,966	4,861	5,153	580	626	63	69	1	1	64	70	44	51	1	1	45	52
Tennessee	295	310	210	191	7,957	7,950	3,450	3,346	3,869	3,985	638	619	32	30	3	3	35	33	22	18	2	2	24	20
Alabama	110	100	157	140	6,149	6,166	2,653	2,600	3,047	3,108	449	458	28	27	12	15	40	42	22	19	10	7	32	26
Mississippi	97	105	242	218	5,608	5,483	2,512	2,412	2,534	2,509	562	562	52	61	5	5	57	66	32	32	4	4	36	36
Arkansas	67	67	123	109	4,576	4,620	1,832	1,759	2,338	2,455	406	406	59	71	59	59	118	130	25	39	31	28	56	67
Louisiana	110	99	138	123	3,514	3,610	1,240	1,277	1,756	1,774	518	559	35	37	4	4	39	41	22	23	3	3	25	26
Oklahoma	244	243	93	90	6,571	6,850	2,464	2,540	2,748	3,160	177	150	65	79	9	6	74	85	45	55	7	5	52	60
Texas	5,376	4,708	283	255	15,335	16,859	7,113	7,255	7,474	8,819	748	785	321	377	54	54	375	431	260	304	35	38	296	342
S. Central	6,912	6,237	1,460	1,319	57,059	59,283	24,354	24,155	28,627	30,963	4,078	4,165	655	751	147	147	802	898	472	541	93	88	565	629
Montana	1,773	1,641	92	88	1,531	1,523	452	434	1,021	1,041	58	48	6	6	1	1	7	7	3	3	..	..	3	3
Idaho	1,094	1,123	52	48	1,685	1,674	478	478	1,159	1,136	48	60	9	10	2	2	11	12	3	4	1	1	4	5
Wyoming	2,071	2,075	66	63	468	434	185	176	270	246	13	12	6	4	1	1	7	5	3	3	..	..	3	3
Colorado	1,726	1,733	72	67	2,061	2,102	826	851	1,161	1,231	74	70	19	25	1	2	20	27	8	10	..	..	8	10
New Mexico	1,249	1,195	65	62	776	785	365	402	367	341	44	42	7	7	..	..	7	7	4	4	..	..	4	4
Arizona	476	473	60	59	647	658	251	251	339	349	57	58	14	12	1	1	15	13	5	5	..	..	5	5
Utah	1,458	1,449	36	34	2,234	2,310	1,012	961	1,129	1,242	93	107	45	106	15	3	60	109	24	30	6	2	30	32
Nevada	461	459	22	21	146	145	48	50	82	78	16	17	..	..	..	..	..	..	..	..	..	..	..	..
Washington	297	275	37	35	5,125	5,280	1,594	1,722	3,257	3,257	274	301	107	117	11	8	118	125	72	77	6	5	78	82
Oregon	846	851	48	46	3,760	3,762	1,232	1,257	2,339	2,316	189	189	258	275	31	31	289	306	214	236	17	18	231	254
California	2,020	1,984	78	70	29,063	28,994	7,797	8,187	16,069	16,390	5,197	4,417	1,150	1,504	44	48	1,194	1,552	675	804	35	38	710	842
Western	13,471	13,258	618	583	47,496	47,667	14,240	14,719	27,193	27,627	6,063	5,321	1,621	2,066	107	97	1,728	2,163	1,011	1,175	65	64	1,076	1,239
U. S.	31,273	30,838	3,928	3,558	382,846	392,811	121,719	119,833	238,579	251,585	22,548	21,393	4,193	5,035	730	710	4,923	5,745	2,775	3,170	456	447	3,231	3,617

*Does not include commercial broilers. **Does not include turkey fryers.

State	CATTLE AND CALVES																HOGS AND PIGS							
			KEPT FOR MILK						OTHER												—Six months and over—			
	All cattle and calves		Cows 2 yrs. and older		Heifers 1 to 2 yrs.		—Heifer— calves		Cows 2 yrs. and older		Heifers 1 to 2 yrs.		—Calves—		Steers 1 yr. and older		Bulls 1 yr. and older		—Total—		Under six months		—Sows— and gilts		—Others—	
	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957
Maine	224	220	123	121	37	34	35	37	9	9	3	3	7	7	5	4	5	5	24	21	13	11	4	3	7	7
N. Hampshire	117	115	71	71	18	17	19	18	3	3	1	1	2	2	1	1	2	2	13	12	8	7	2	2	3	3
Vermont	474	469	323	320	63	63	66	65	4	4	2	2	4	4	3	2	9	9	13	12	8	7	2	2	3	3
Massachusetts	180	178	123	123	24	22	22	22	2	2	2	2	2	2	2	2	3	3	160	150	77	72	16	15	67	63
Rhode Island	25	24	19	18	3	2	2	3	..	..	..	..	..	..	..	..	1	1	12	11	7	6	1	1	4	4
Connecticut	174	171	118	117	23	22	23	22	2	2	1	1	2	2	2	2	3	3	26	25	15	14	3	3	8	8
New York	2,288	2,242	1,512	1,482	321	309	319	305	35	40	6	7	30	34	29	31	36	34	157	146	103	98	24	21	30	27
New Jersey	226	224	156	154	25	25	25	25	5	5	2	2	4	4	5	5	4	4	244	207	117	100	20	19	107	88
Pennsylvania	1,896	1,915	1,039	1,049	248	245	256	262	82	81	38	34	47	48	155	165	31	31	642	603	425	402	88	75	129	126
N. Atl.	5,604	5,558	3,484	3,455	762	739	767	759	142	146	55	52	98	103	202	212	94	92	1,291	1,187	773	717	160	141	358	329
Ohio	2,416	2,416	930	930	213	213	232	223	232	232	104	101	389	390	280	294	36	33	2,836	2,666	2,210	2,088	420	389	206	189
Indiana	2,262	2,262	612	588	142	131	144	122	369	354	141	149	526	548	301	343	27	27	4,475	4,520	3,365	3,494	630	630	480	396
Illinois	4,028	4,270	866	849	230	231	294	329	616	633	225	248	938	1,023	810	910	49	47	6,348	6,348	4,190	4,380	1,022	1,022	1,136	946
Michigan	1,924	1,886	898	880	243	241	258	253	98	111	65	61	171	171	164	144	27	25	776	729	536	510	118	112	122	107
Wisconsin	4,341	4,341	2,578	2,604	640	633	655	644	98	93	46	40	95	95	145	151	64	61	1,865	1,753	1,220	1,171	366	354	279	228
E. N. C.	14,971	15,175	5,884	5,851	1,468	1,449	1,583	1,571	1,413	1,423	681	619	2,119	2,227	1,700	1,842	203	193	16,300	16,016	11,521	11,643	2,556	2,507	2,223	1,866
Minnesota	3,978	4,018	1,542	1,557	438	426	446	482	298	299	163	145	609	599	422	454	60	56	3,637	3,201	2,000	1,841	611	611	1,026	749
Iowa	4,161	4,284	1,100	1,100	261	251	272	276	980	943	413	396	1,914	2,073	1,148	1,163	81	82	11,602	10,790	6,475	6,216	1,889	1,889	3,238	2,685
Missouri	4,027	4,027	936	899	191	193	214	213	1,034	1,029	210	186	888	915	476	516	78	77	3,819	3,666	2,635	2,585	554	565	630	516
N. Dakota	2,072	2,031	406	398	89	88	119	117	620	637	162	152	509	484	125	113	42	42	421	345	75	75	95	98	251	172
S. Dakota	3,334	3,167	332	325	77	73	117	117	1,307	1,200	243	219	905	868	280	295	73	70	1,494	1,195	421	370	300	285	773	540
Nebraska	4,769	4,570	446	450	99	99	116	114	1,465	1,415	383	421	1,458	1,381	726	616	76	74	2,423	1,841	1,130	940	388	355	905	546
Kansas	4,211	3,664	508	498	109	106	122	110	1,286	1,107	300	249	1,309	1,139	514	396	63	59	929	808	619	565	143	130	167	113
W. N. C.	28,542	27,761	5,270	5,227	1,264	1,236	1,406	1,429	6,980	6,630	1,874	1,768	7,592	7,459	3,683	3,552	473	460	24,325	21,846	13,355	12,592	3,980	3,933	6,990	5,321
N. Cent.	43,513	42,936	11,154	11,078	2,732	2,685	2,989	3,000	8,393	8,053	2,475	2,387	9,711	9,686	5,383	5,394	676	653	40,625	37,862	24,876	24,235	6,536	6,440	9,213	7,187
Delaware	68	67	36	34	8	9	9	8	7	8	1	1	3	3	2	2	2	2	40	37	25	24	5	5	10	8
Maryland	529	524	251	251	54	56	57	58	57	51	20	19	30	32	48	47	12	10	225	207	156	151	32	28	37	28
Virginia	1,382	1,382	436	432	86	87	102	97	343	350	76	76	187	206	127	110	25	24	678	705	445	476	92	94	141	135
W. Virginia	593	581	209	201	36	36	39	37	134	130	37	39	82	78	47	51	9	9	170	138	120	95	21	17	29	26
N. Carolina	956	968	378	379	79	82	90	92	201	200	63	60	92	97	35	35	20	20	1,276	1,314	750	791	190	207	336	316
S. Carolina	633	649	168	171	38	39	44	47	178	185	53	54	98	93	34	30	20	20	491	599	350	362	78	77	163	154
Georgia	1,562	1,546	332	329	89	83	95	94	517	512	134	133	264	271	92	95	39	39	1,663	1,730	1,069	1,110	236	241	358	379
Florida	1,754	1,842	194	210	66	70	77	81	814	842	144	131	196	269	214	188	49	51	427	465	230	260	80	78	117	127
S. Atl.	7,476	7,546	2,001	2,007	456	462	513	514	2,251	2,278	528	513	952	1,049	599	548	176	175	5,060	5,189	3,145	3,269	734	747	1,181	1,173
Kentucky	1,826	1,863	654	654	115	112	122	135	341	337	102	101	310	319	153	186	29	29	1,203	1,239	874	857	166	171	213	211
Tennessee	1,753	1,771	681	681	124	122	135	142	351	348	107	110	242	251	82	85	31	32	1,183	1,207	784	815	173	176	226	216
Alabama	1,798	1,816	397	384	117	115	140	142	655	663	113	114	264	272	83	96	29	30	1,042	1,080	691	656	144	144	207	200
Mississippi	2,440	2,538	593	581	134	125	140	144	839	900	212	212	351	393	132	142	39	41	808	840	421	417	98	108	289	315
Arkansas	1,587	1,603	389	381	89	91	113	114	498	496	94	98	277	285	96	106	31	32	545	561	345	338	78	76	122	147
Louisiana	1,923	1,961	348	345	75	78	93	93	865	865	175	198	263	271	75	72	39	39	473	501	290	296	76	72	107	133
Oklahoma	3,211	3,018	436	414	95	95	142	135	1,281	1,255	218	206	748	668	232	188	59	57	463	407	340	286	68	67	55	64
Texas	8,501	7,736	849	824	187	186	213	209	3,079	3,675	561	511	2,004	1,790	595	340	213	201	1,100	946	735	612	140	114	225	220
S. Cent.	23,039	22,306	4,347	4,264	936	924	1,098	1,104	8,709	8,539	1,582	1,550	4,449	4,249	1,448	1,215	470	461	6,817	6,701	4,430	4,277	943	918	1,444	1,506
Montana	2,491	2,342	106	104	24	23	32	32	1,132	1,124	267	207	738	691	139	108	53	53	141	114	80	68	20	20	41	26
Idaho	1,416	1,388	243	245	72	78	92	90	357	377	101	105	344	314	184	155	23	24	120	103	82	69	16	14	22	20
Wyoming	1,118	1,152	44	44	11	12	13	13	509	521	89	98	351	362	78	78	23	24	34	36	17	19	5	5	12	12
Colorado	2,054	2,033	163	161	46	41	53	48	745	703	228	281	536	529	238	227	46	43	195	177	115	106	25	24	55	47
N. Mexico	1,222	1,136	52	52	10	10	12	12	677	606	98	102	288	272	62	58	23	24	45	40	30	26	6	6	9	8
Arizona	1,022	1,012	50	51	13	14	15	15	415	410	102	94	286	194	200	213	21	21	26	27	14	16	4	4	8	7
Utah	727	734	111	112	27	30	35	35	253	252	67	67	151	148	71	78	12	12	61	60	38	39	7	7	16	14
Nevada	597	609	17	16	8	9	10	10	297	309	60	58	140	137	52	56	13	14	19	16	11	9	2	2	6	5
Washington	1,206	1,146	295	295	74	74	87	87	266	250	90	85	253	231	117	100	24	24	130	116	95	82	17	17	18	17
Oregon	1,456	1,398	219	217	59	57	68	64	505	495	119	118	325	312	129	103	32	32	157	141	111	94	22	22	24	25
California	3,863	3,870	927	927	250	233	260	256	865	873	377	362	437	465	658	661	89	93	452	438	245	220	60	56	147	162
Western	17,172	16,820	2,227	2,224	594	581	677	662	6,021	5,920	1,598	1,577	3,769	3,655	1,928	1,837	358	354	1,380	1,268	838	748	184	177	358	343
U. S.	96,804	95,166	23,213	23,028	5,480	5,391	6,044	6,039	25,516	24,936	6,238	6,079	18,979	18,742	9,560	9,206	1,774	1,746	55,173	52,207	34,062	33,246	8,557	8,423	12,554	10,538

Calvin C. Craighead Darrell Snider

Lindsey-Robinson Names Service Men

ROANOKE, VA.—Edmond K. Garrett, Jr., Calvin C. Craighead and Darrell Snider have begun work in their respective districts as Fair-Acre farm service agents, according to an announcement from Lindsey-Robinson & Co., Inc.

The three men will aid users of Fair-Acre products in such technical matters as breeding, management, feeding and disease prevention and control. They also assist farmers in culling, vaccinating, castrating, dehorning and related farm tasks.

Mr. Garrett was raised on a farm at Cleveland, Va. He received his B.S. degree in agricultural economics from Virginia Polytechnic Institute. Mr. Garrett will live in Wytheville, Va., while serving southwestern Virginia and adjoining parts of North Carolina and West Virginia.

E. K. Garrett, Jr.

Mr. Craighead will serve the north central Georgia territory, and will headquarter in Cleveland, Ga. He graduated with a B.S. degree in poultry husbandry from Virginia Polytechnic Institute, and after graduation was superintendent of the VPI poultry plant.

Mr. Snider, service agent for north central North Carolina, is a North Carolina native. He received a B.S. degree in agricultural education from North Carolina State College and prior to joining Fair-Acre, was teaching agriculture at Eakelon high school, Zebulon, N.C.

Feed Specialist Named Speaker for Egg Day

LAFAYETTE, IND.—R. M. Hendrickson, poultry feed products specialist from General Mills, Inc., Minneapolis, will be one of a group of poultry specialists scheduled to speak at the fifth annual Purdue Egg Day April 3. The event is sponsored by the Purdue University poultry science department and the Indiana State Poultry Assn.

Mr. Hendrickson and Raymond E. Cray, Ohio State University poultryman, will join staff members from Purdue in covering the day's topics of poultry diseases, research and the economic outlook for the egg business.

D. D. Jackson, Purdue extension poultryman, said more than 300 egg producers are expected. The program will include panel discussions on "What Can We Do to Stimulate Egg Consumption?" and "Problems of Buyers and Producers of Quality Eggs."

All sessions will be held in the Purdue Memorial Union.

JAMES A. BOYD DIES

MURDOCK, NEB.—James A. Boyd, who had been in the feed and produce business in Murdock since 1940, died recently in Lincoln, Neb. He was 77.

Corn Products Buys Refined Syrups

KANSAS CITY—Negotiations for the acquisition of Refined Syrups & Sugars, Inc., Yonkers, N. Y., by the Corn Products Refining Co., 1001 Berford St., North Kansas City, have been completed, according to William T. Brady, president.

The products of the two firms are complementary, Mr. Brady said, and will expand Corn Products' services in the East.

Sales of Refined Syrups are in excess of $35 million annually and Corn Products domestic and international sales in 1956 were more than $400 million.

KEES & COMPANY

Processors of DRIED FISH SOLUBLE PRODUCTS

A "MUST" IN EVERY SWINE OR POULTRY RATION

Call or write for complete information and price

327 S. La Salle St., Chicago 4, Ill. Phone HArrison 7-1528

Planning a new mill or elevator? KELLY DUPLEX can help you.

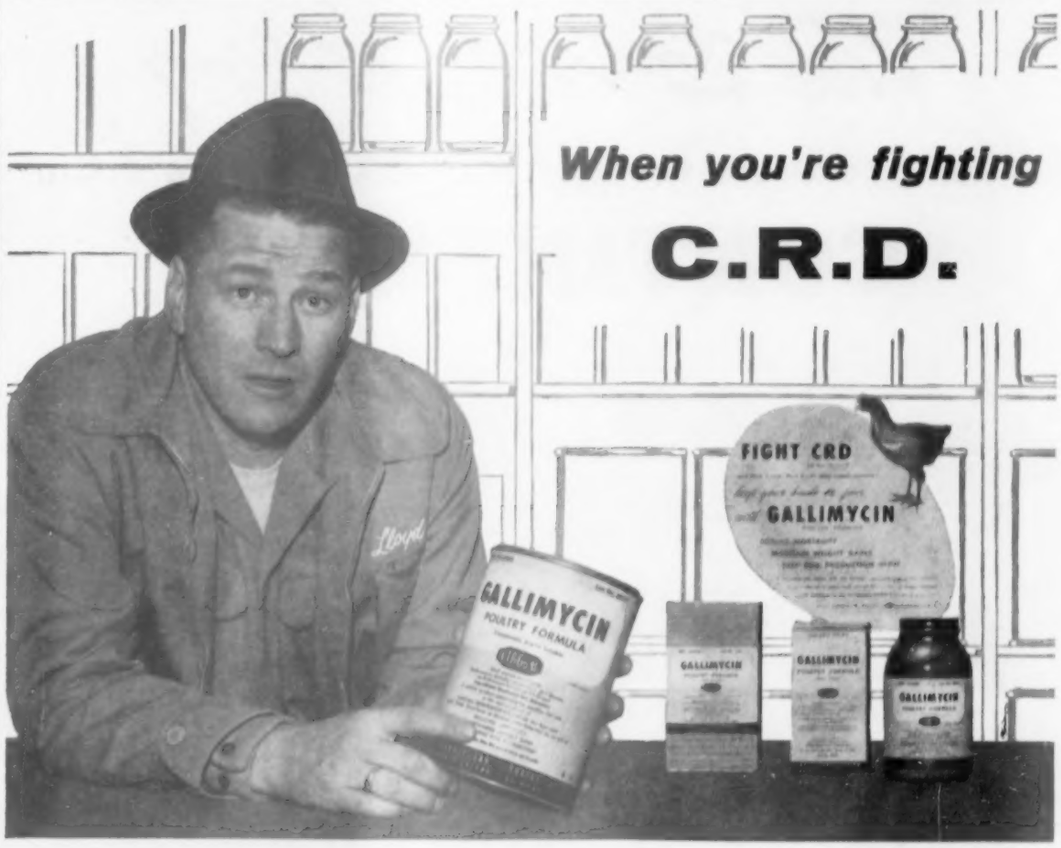
Maybe you've been thinking about a new mill—a new addition—or a new machine. Then again, maybe you've just been wondering how you can get MORE from your present space.

Whatever it is, we would like to talk to you about it.

We've shown a lot of others how good machinery and good planning can do wonders for their capacity, their efficiency, and their profits—at COMMON SENSE COST. The chances are we can do the same for you.

Don't hesitate to send us the coupon. There will be NO obligation—and NO high pressure salesmanship. We don't do business that way.

The Duplex Mill & Mfg. Co., Springfield, Ohio
We would like to talk to you about planning.
We're interested in_____
NAME_____
FIRM_____
ADDRESS_____



Gallimycin® does the job!

There are half-a-dozen-or-more reasons why GALLIMYCIN Poultry Formula does a superior job...and just as many why you can recommend and use it with confidence.

GALLIMYCIN does the job—*proved more effective* than wide range antibiotics in treating C.R.D. Other studies show GALLIMYCIN 500 to 1,000 times more active against five separate strains of infectious organisms associated with C.R.D.

GALLIMYCIN does the job—fights only specific types of infectious organisms. GALLIMYCIN is less likely to upset the intestinal balance, less likely to cause harmful after effects. Does away with the need for additional, expensive vitamins during treatment.

GALLIMYCIN does the job—is not affected by strong intestinal acids. It is completely water soluble—all of it is readily absorbed into the blood so that it can use its *full* power to fight disease. Helps keep sick birds from slowing down...helps keep broilers gaining and hens laying. Increases water consumption in a matter of hours—quickly boosts feed consumption.

Sell and recommend the poultry formula that does *the job* for both you and your customers—GALLIMYCIN!

Abbott

Abbott Laboratories • Veterinary Division • North Chicago, Illinois

In Canada: 1350 Cote De Liesse Road, Montreal 9, Quebec

701480

Cattle Feed Studies Will Be Reported At Purdue Event

LAFAYETTE, IND.—Reports on new cattle feeding research will be made at the annual Indiana Cattle Feeders Day, to be held April 26 at Purdue University.

The program will open at 9 a.m. with a tour of livestock experiments at the new Purdue livestock research barn, north of the campus. At 10 a.m., university scientists will report on these research projects:

Oral feeding of stilbestrol versus stilbestrol implants and hexestrol implants for fattening heifers. Grass silage versus wheat silage versus oats silage with or without Terramycin for growing steers.

A comparison of a supplement containing cottonseed, linseed and soybean oil meal and urea for self-feeding steers on ground ear corn.

High moisture corn versus low moisture corn for fattening heifers.

The effect of torula yeast and "Dynafac" on the growth and fattening of cattle.

Mature corn stalk silage versus green corn stalk silage versus corn silage for growing and fattening steers.

The feeding of stilbestrol versus stilbestrol implants for fattening steers on pasture.

An afternoon speaking program will be held from 1 to 3 p.m. in the livestock judging pavilion.

The event is sponsored by Purdue and the Indiana Cattle Feeders Assn. Dr. W. M. Beeson, head of animal nutrition work at Purdue, is secretary-treasurer of the association.

FIRE WRECKS WAREHOUSE

CHICKASHA, OKLA.—Fire wrecked a seed warehouse of the Save-Way mill here recently. Estimated damage was set at $50,000. The large sheet metal and wood warehouse was about half full at the time of the fire.

Fish Meal Production Increases in December

WASHINGTON—Manufacturers of fish meal and scrap in the U.S. and Canada totaled 14,643 tons during December, 1956, according to a report from the Fish and Wildlife Service. This was an increase of 1,616 tons in meal and scrap compared with December, 1955.

During December, 1956, menhaden yielded 11,635 tons of meal and scrap, an increase of 4,731 tons, compared with the same month in 1955. Production of homogenized-condensed fish amounted to 1,300,000 lb., a decrease of 31%, compared with the amount manufactured during the same month of 1955. A total of 6,900,000 lb. condensed-fish solubles was produced during December, 1956, a decrease of 17% from the amount reported for December, 1955.

Imports of fish meal into the U.S. during November, 1956, totaled 3,925 tons, compared with 9,921 tons imported during November, 1955.

Quentin J. Marsh

Dale J. Snyder

Personnel Named for New Hubbard Plant

MANKATO, MINN.—Selection of personnel to direct the newly created Cedar Rapids division of Hubbard Milling Co., Mankato, has been announced by Ogden P. Confer, vice president and manager of the feed division.

Construction of a modern feed plant at Cedar Rapids will be completed in early summer, Mr. Confer said, making the third branch of the company which began operations at Mankato in 1879. A second plant was opened in Marion, Ind., in 1952.

Quentin J. Marsh, who has been with Hubbard since 1952, has been named manager of the Cedar Rapids plant, and Dale J. Snyder, a member of the Hubbard sales organization since 1936, will be sales manager of the new division. Both will move to Cedar Rapids this spring.

Mr. Marsh, a Minnesota native, received a degree in technical agriculture from the University of Minnesota in 1948. He was a county agent until he joined Hubbard's advertising and promotion departments. He was later a sales manager and then assistant manager of the feed division.

Mr. Snyder grew up in Iowa and then attended Penn College at Oskaloosa, Iowa. He joined Hubbard as a territory manager and was sales manager of the Mankato feed division before being named to the new position. In his new duties he will be in charge of sales in Iowa, Wisconsin, Illinois, Missouri and Nebraska.

The Best Selling

steel products for CITY & FARM come from

CONTINENTAL®

Whether you are located in a busy city or a rural town you can profit most by selling the Continental line—83 sales-proved steel products all from one producer, all from one convenient source.

And that's because the Continental line is so varied that you can stock the items most in demand by both city and country customers...from nails to poultry netting, from barnyard gates to clothesline wire. There are 15 kinds of fence alone!

Start with Continental's new brilliant-bright Ornamental Lawn Fence. See your Continental Steel man or write today.

FLAME-SEALED® FENCE—Triple protected against rust, with famous Pioneer or Champion knots. Sizes and spacing for all needs.

GALVANIZED WELDED WIRE FABRIC—Rigid, one-piece construction; smooth, uniform mesh. Ideal for pens, cribs, tree and flower guards—1001 uses.

WELDED REINFORCING FABRIC—The "backbone" of every concrete job. Adds 30% greater strength, controls cracking. Four sizes, for most requirements.

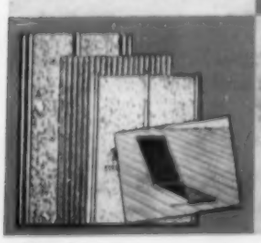
SPOOLED WIRE FOR AUTOMATIC BALERS—Easy handling, smooth feeding. Fits all popular makes. 3 standard size coils—3150 ft., 6500 ft. and interim.

TYL-LYKE BIN DOR—For elevator loading, ventilating. 3 styles of easy-laying steel roofing, siding.

NAILS—10,000 kinds and sizes of Nails—for every purpose.

NEW BRIGHT LOOK IN ORNAMENTAL FENCE

New patented process makes brightest ornamental fence ever seen. It's the exciting news in fence. In single and double picket. Also flower border.



CONTINENTAL

STEEL CORPORATION • KOKOMO, INDIANA

PRODUCERS OF: Farm Fence, Posts, Gates, Barbed Wire, Nails, Staples, Lawn Fence, Welded Wire Fabric, and standard styles of Galvanized Roofing and Siding.

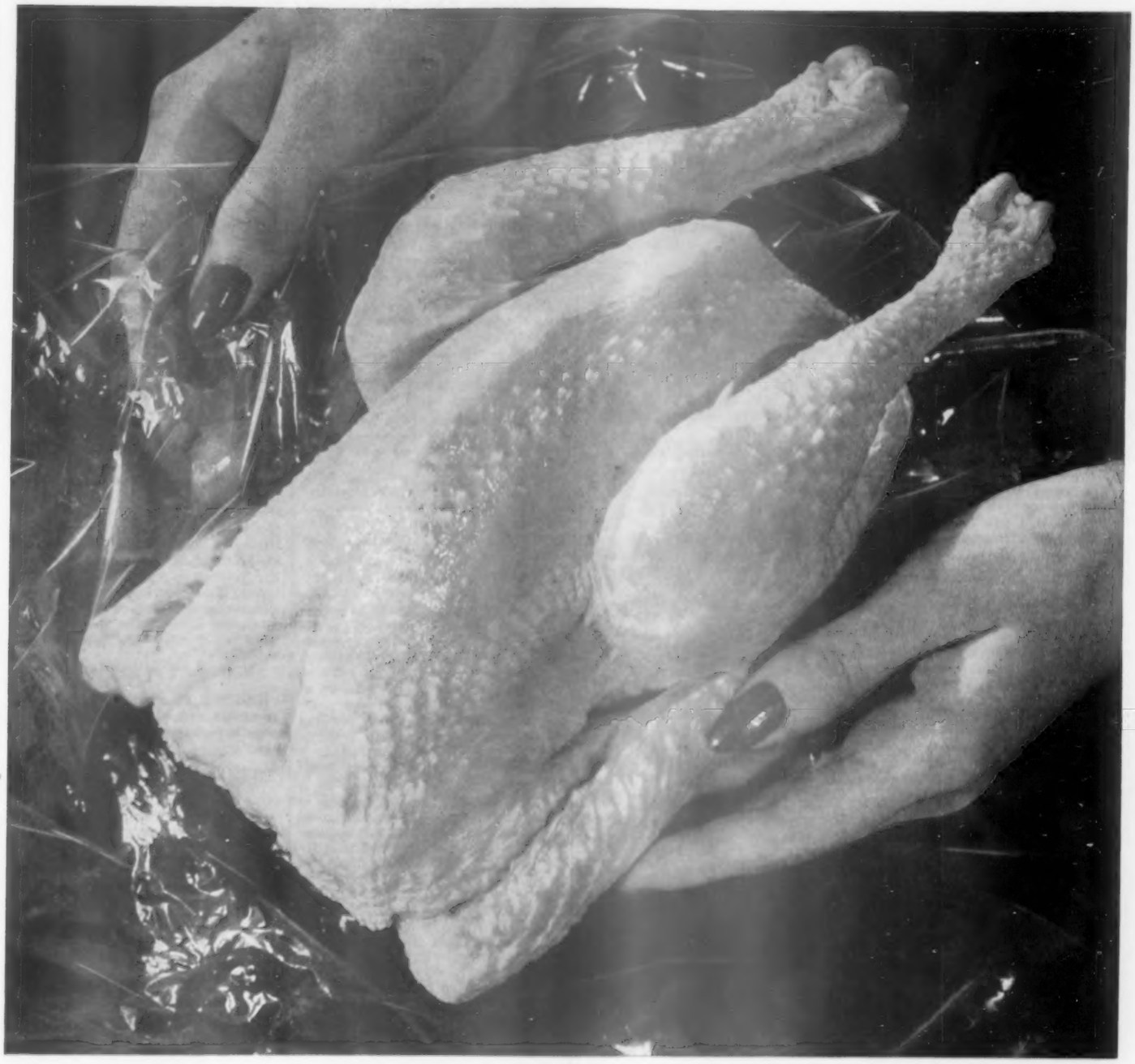
FISH MEAL • FISH SOLUBLES

LIVER MEAL—VITAMIN OILS

FEATHER MEAL—FEED INGREDIENTS

ALBUMINA SUPPLY CO., INC.

82 Beaver St., New York 5, N. Y.



What does the new model look like?

The broiler industry has re-styled its product just as drastically during the past two decades as the automobile industry. It has built its market equally rapidly. Advances in feeding efficiency have been as spectacular as the meteoric rise in engine horsepower.

Let's look at what's happened! From a long, lean by-product of farm laying flocks to today's wide-breasted, short, plump-legged meat-type bird; from 3-pound birds in 12 weeks, to the same size in about 8 weeks; from a feed efficiency ratio of 3½ to 1, to slightly more than 2 for each pound of gain. From a $50 million per year side-line business, to an $804 million per year industry . . . all in only 15 years!

FARM ASSEMBLY LINE

It is impossible to single out any individual, or organization, as the mastermind behind this important new broiler industry. Everyone, from the tireless research worker bending over his microscope, to the poultryman crawling out of bed in the cold morning darkness to check the brooders, was an important link in forging this first successful farm assembly line.

The development of this new industry—bringing new profits and new prosperity to communities often badly in need of them—is an *agricultural* triumph. And who can deny the impetus provided by the rough-and-tumble competition between feed companies? We, at Purina, are right proud to have been in on it.

We take off our hats to our suppliers . . . to the colleges . . . and our competitors . . . for the vital parts they have played in building this lusty broiler industry.

PURINA . . . YOUR PARTNER IN SERVING ANIMAL AGRICULTURE

Liberal vs. Restricted Grain Feeding for Dairy Cows

By Dr. L. S. Mix
Beacon Milling Co.

EDITOR'S NOTE: The accompanying article is a discussion of the economics of liberal vs. restricted grain feeding to dairy cows. Dr. L. S. Mix, the Beacon Milling Co., Cayuga, N.Y., points out that there is no one level of grain feeding which is most profitable under all conditions. The price of milk, grain and roughage, the quality and quantity of roughage fed, and the inherited ability of the cow to produce all must be considered. As a result of some generalized recommendations on cutting grain feeding, some dairymen are actually reducing their incomes for lack of sound information, Dr. Mix notes. Feed men serving dairy farmers will find the information of real help. This article is from a talk by Dr. Mix at the Animal Nutrition Conference at North Carolina State College.

v v

Numerous articles have appeared in the farm press the past few years advising dairymen to reduce their grain feeding by up to one half. A few have gone so far as to recommend no grain at all. Frequently, the recommendations are extremely general in nature with no attempt to relate them to local milk prices, local feed prices and the inherited capacity of individual cows to produce. As a result, some dairymen are actually reducing their incomes for lack of sound information. The fact that grain fed per cow has increased in most states in recent years indicates that many dairymen find it profitable to use grain in liberal amounts.

Our objective as feed manufacturers, dairy extension workers and agricultural economists should be to supply facts about grain feeding which will enable each dairyman to make the greatest net profit with the herd on his farm under any given set of circumstances. Obviously no one rule of thumb can accomplish this end result. The discussion that follows will be directed toward the economics of liberal versus restricted grain feeding to dairy cows.

Most Important Factors

The most important factors affecting the profitableness of grain feeding are:

1. Farm price of milk per cwt.
2. Cost of grain per cwt.
3. Inherited ability of the cow to utilize feed above maintenance for milk production.
4. Quality, quantity and value of roughage fed.

There are numerous studies to indicate that a pound of digestible nutrients costs less when derived from home grown roughage than when purchased in grain. Advances in dairy cattle breeding, however, have produced a modern day cow capable of producing 10 to 15 times her body weight in milk. The capacity to handle additional roughage has not increased in proportion to the inherent capacity to produce milk. As a result, much of the increased capacity of the individual cow to produce more milk is not being fully utilized for lack of sufficient digestible nutrients. The average herd in most states is only producing about 70% of its inherent capacity.

It takes a certain amount of feed just to maintain a cow regardless of her production. It is like the gasoline required to idle a tractor. With cows weighing 1,000 lb. and possessing the inherited ability to produce only 5,000 lb. of 3.7% milk, two thirds of the total feed intake is used to maintain the body and develop a calf, leaving only one third available for milk production. For a 1,500-lb. cow capable of producing 15,000 lb. of 3.7% milk, only about half of the total feed intake is used for maintenance and reproduction, the other half being available for milk production. (Figure 1) (4).

Grain Requirements

Our goal in efficient milk production in most areas should be to feed all of the high quality roughage the cow will consume and meet the balance of her nutritive requirements with adequate amounts of an efficient grain ration. The question arises as to what constitutes an adequate amount of grain to meet requirements. Table 1 relates grain requirements to milk production, body size and quality and quantity of roughage fed.

It is obvious that the amount of grain required to support any given level of production varies tremendously with the quality and quantity of roughage fed. For example, in order to maintain a 1,300-lb. cow and produce 10,000 lb. of 3.7% milk, between 1 ton and 3 tons of grain (72% T.D.N.) will be required, depending on the quality and quantity of roughage fed. Grain to milk ratios needed to meet the needs of this cow vary all the way from 1:4.9 with excellent roughage to 1:1.7 with poor roughage. The above ratios include grain fed during the dry periods.

Grain Feeding and the Law of Diminishing Returns

Feeding standards represent the quantity of total digestible nutrients or net energy required for each pound of milk of varying butterfat content produced. Such standards, however, do not take into consideration the fact that a cow receiving a ration in excess of her requirements will utilize that ration less efficiently than a cow being underfed. This fact is illustrated in Table 2 compiled by USDA (3).

From this table it is possible to calculate the quantities of grain which will give the greatest return at a given grain-milk price ratio (Table 3). The level of hay intake used in the calculations was 18 lb. per 1,000 lb. of body weight. At this level of roughage intake, a cow producing 40 lb. of 4% fat milk should receive 19 lb. of grain daily to make the greatest return when the grain price per cwt. is three fourths the milk price per cwt.

According to the revised Haecker standard (6), cows will meet their maintenance requirements when they receive 1.4 lb. of hay equivalent per 100 lb. of body weight. Cows receiving 1.5 to 2.5 lb. of hay equivalent per 100 lb. of body weight thus, are receiving TDN which can be used for milk production. The amount of grain equivalent available for milk production from the extra roughage is shown in Table 4.

The most profitable level of grain feeding with a hay equivalent intake of 2.0 lb. per 100 lb. of live weight is illustrated in Table 5.

Free Choice Roughage Feeding

The amount of roughage consumed by dairy cows varies primarily with the quality fed. Individual cows will consume up to 3.0 lb. of hay equivalent per 100 lb. of body weight. In areas where the roughage supply is short, the price of the hay may determine the amount fed. Specific recommendations for the most profitable level of grain feeding under these

TABLE 1—Relationship Between Roughage Intake, Milk Production, Body Weight and Amount of Grain Required Annually (4)

Quality and Quantity of Roughage fed		——Lbs. of 3.7% milk per cow per year——				
	Lb. milk	5,000	6,921	10,000	12,000	15,000
	Lb. butterfat	185	256	370	444	555
	Body weight	1,000	1,200	1,300	1,400	1,500
Excellent 2.5 lb. H.E.*/**	Lb. grain***	438	896	2,038	2,664	3,772
Very good 2.25 lb. H.E./**	Lb. grain	1,260	1,813	3,000	3,674	4,829
Good 2.0 lb. H.E./**	Lb. grain	2,042	2,698	3,924	4,643	5,846
Fair 1.9 lb. H.E./**	Lb. grain	2,858	3,621	4,915	5,693	6,954
Poor 1.5 lb. H.E./**	Lb. grain	3,728	4,642	6,011	6,865	8,201

*Hay equivalent. **Per 100 lb. body weight. ***Calculations based on Morrison Standard.

FIGURE 1. Based on Morrison feeding standard.

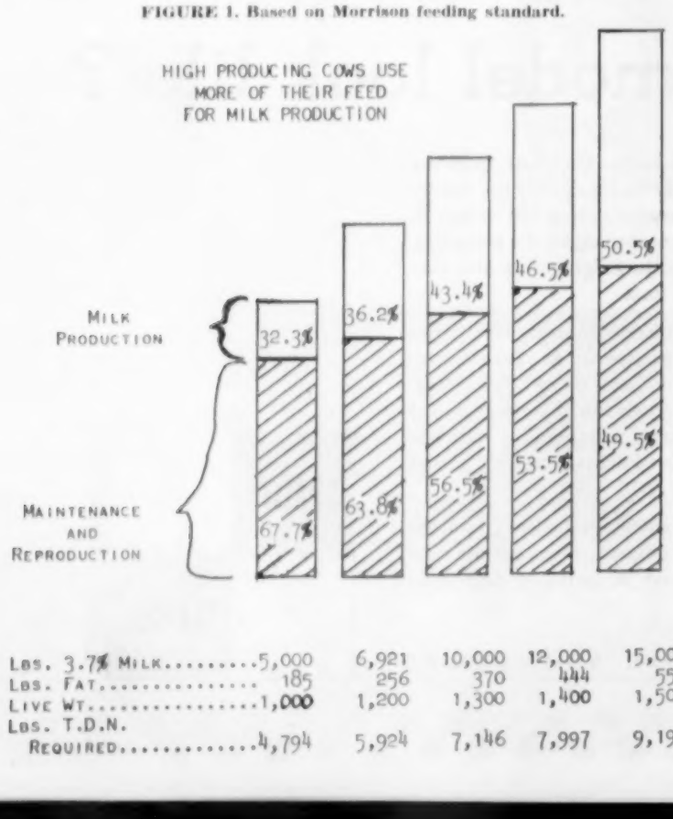


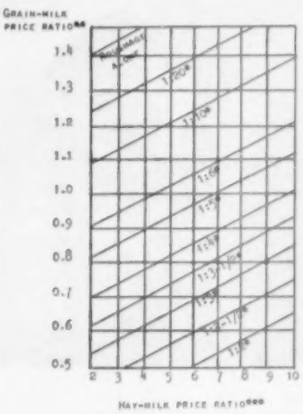
TABLE 2—Response of Dairy Cows to Increased Grain Feeding*

Production ration in per cent of Haecker requirements	Incremental output, pounds of 4% fat-corrected milk for an additional lb. of grain or grain equivalent†‡
90	1.4
100	1.0
110	0.8
120	0.6
130	0.5

*USDA Technical Bulletin 815, series 1 experiments.
†Grain or grain equivalents containing 0.75 lb. T.D.N. per pound.
‡Hay intake 18 lb. per 1,000 lb. of body weight.

Dr. L. S. Mix

FIGURE 2. Chart showing the most profitable level of grain feeding when cows have free access to good roughage.



* Cows fed 1 pound of grain to every 2 pounds of milk during the lactation period are said to be fed at the level of 1:2, e/c.

** Price of 100 pounds of grain divided by price of 100 pounds of 3½ fat-corrected milk.

***Price of 1 ton of hay or hay equivalent divided by price of 100 pounds of 3½ fat-corrected milk.

TABLE 3—Recommended Grain Allowance for Dairy Cows at Varying Prices of Grain and Milk* With Limited Roughage†

Section A Daily production of milk testing:				Section B Quantity of grain to be fed when grain price is:			
3½% fat	4% fat	4½% fat	5% fat	1¼ times milk price	Same as milk price	¾ of milk price	½ of milk price
11	10	9	8	2	2	3	4
17	15	14	12	4	5	6	7
22	20	18	16	6	7	8	10
28	25	23	21	8	9	11	13
33	30	27	25	11	12	13	16
39	35	32	29	13	14	16	19
45	40	36	33	15	16	19	22
50	45	41	37	17	19	21	25
56	50	45	41	19	21	24	**
61	55	50	45	21	23	**	..
67	60	54	49	23	25	..	..

*Pennsylvania Agricultural Experiment Station Bulletin No. 424.
†Roughage allowance 18 lb. per 1,000 lb. body weight.
**Caution should be exercised to avoid cows going off feed at higher levels.

TABLE 4—Amount of Grain Equivalent to Be Subtracted Daily From That Fed for Production to Account for Nutrients From Different Hay Equivalent Intakes*

Body weight (lb.)	Rate of Hay Intake—Lb. of Grain Equivalent (75% T. D. N.) to Be Subtracted From Production Requirements: 1.5 lb. hay equivalent per 100 lb. body weight†	2.0 lb. hay equivalent per 100 lb. body weight	2.5 lb. hay equivalent per 100 lb. body weight
800	.53	3.2	5.9
900	.60	3.6	6.6
1,000	.67	4.0	7.3
1,100	.73	4.4	8.1
1,200	.80	4.8	8.8
1,300	.87	5.2	9.5
1,400	.93	5.6	10.3
1,500	1.00	6.0	11.0

*Revised Haecker standard.
†Hay equivalent fed in excess of 1.4 lb. per 100 lb. body weight provides nutrients in excess of maintenance requirements; therefore, a decreased amount of grain is needed for milk production.

TABLE 5—Recommended Grain Allowance for Dairy Cows Fed 2.0 lb. Hay Equivalent per 100 lb. Body Weight at Varying Prices of Grain and Milk

Section A: Daily production of milk testing: 3½% fat	4% fat	4½% fat	5% fat	Section B: Quantity of grain to be fed when grain: milk price ratio is: 1.0	0.8	0.6	0.5
11	10	9	8	0.0	0.0	0.5	1.0
17	15	14	12	2.0	2.5	3.2	4.0
22	20	18	16	4.0	5.0	6.0	7.0
28	25	23	21	6.5	7.5	8.5	10.0
33	30	27	25	8.5	10.0	11.0	12.5
40	35	32	29	11.0	12.5	14.0	15.5
45	40	36	33	13.0	15.0	16.5	18.5
50	45	41	37	15.0	17.0	19.5	21.5
56	50	46	41	17.5	20.0	22.0	24.0
61	55	50	45	20.0	22.0	25.0	...
67	60	54	49	22.0	24.5	...	...

conditions are more difficult to make. Jensen et al. (3) have prepared the chart in Figure 2 showing the most profitable level of grain feeding when cows have free access to good roughage. With milk at $6 cwt., grain at $4 cwt. and hay fed free choice at $36 ton, the most profitable level of grain feeding, according to this chart, would be about 1:2.75.

If cows are fed all the high quality roughage they will eat, the average decrease in hay consumption for each 100 lb. increase in grain appears to lie somewhere between 50 and 70 lb., according to Jensen et al. (3). Therefore, in figuring the increased cost of grain at narrower ratios, it is necessary to calculate the reduction in roughage cost resulting from the decreased roughage intake.

Summary

1. There is no one level of grain feeding which is most profitable under all conditions. The price of milk, grain and roughage, the quality and quantity of roughage fed and the inherited ability of the cow to produce all must be considered in making recommendations on grain feeding.

2. With limited roughage intake (18 lb. per 1,000 lb. live weight), $6 per 100 lb. of 4% milk, $4 per 100 lb. of grain, it is most profitable to feed good cows approximately 1 lb. of grain for 2 lb. of milk.

3. With free access of good hay ($36 per ton) and with grain at $4 per cwt. and milk at $6 per cwt., it is most profitable to feed good cows 1 lb. of grain for each 2.75 lb. of milk.

REFERENCES

(1) Borland, A. A., et al — Pennsylvania Agri. Expt. Sta. Bull. 424, 1942.
(2) Davis, R. F. — Proc. Maryland Nutr. Conf. for Feed Mfrs., page 18, 1956.
(3) Jensen, E., et al—U.S.D.A. Tech. Bull. 815, 1942.
(4) Mix, L. S., et al — Profitable Dairy Management, 9th Ed., pages 9-13, 1954, Beacon Milling Co., Inc.
(5) Morrison, F. B.—Feeds and Feeding, 21st Ed., 1950.
(6) Petersen, W. E.—Dairy Science, 2nd Ed., 1950, pages 635-636.

Stilbestrol, Antibiotic Combination Provides Better Gains in Tests

COLLEGE STATION, TEXAS — The feeding of 10 mg. stilbestrol daily increased the market weight of yearling steers 44 lb. and carcass weight by 31 lb. in a 96-day feeding trial reported on recently by Texas A&M Experiment Station.

The report made by P. T. Marion, C. E. Fisher and J. H. Jones, stated further that when comparable steers were fed for 140 days they weighed 65 lb. more on the market and dressed out 31 lb. heavier than those in the control group.

In an additional 96-day trial with heavier steers carrying more flesh before going into the feedlot the group fed stilbestrol weighed 27 lb. more at the market, but carcass weights were 3 lb. less than for the controls.

Meanwhile, cattle fed Terramycin, Aureomycin or Ilotycin at a level of 75 mg. daily made higher gains than those in the control group, but lower gains than the cattle fed stilbestrol in the 96 and 140-day tests.

Cattle fed a combination of stilbestrol and Terramycin, Aureomycin or Ilotycin made only slightly higher gains than those fed stilbestrol alone in a 96-day feeding trial. But when the feeding period was increased to 140 days, the steers fed the combination of the hormone with an antibiotic weighed 29 lb. more on the market than those fed stilbestrol alone and were 94 lb. heavier than the control group. A decided advantage was shown for the combination material over any of the additives fed singly when compared on the basis of carcass weights, the report said.

Spayed yearling heifers made lower gains in a 96-day feeding trial, but they graded two thirds of a grade higher and sold for the same price as steers comparable in age and feed treatment.

Beefmaster steers made higher gains in the feedlot and had a higher dressing percentage than Hereford steers, but the carcass grades were lower than for the Herefords, the researchers said.

BUYS FEED MILL

WINTER, WIS.—Carl Allen of the Thornapple district has purchased the Gerber Bros. Feed Mill in Winter, according to a recent announcement.

This man is looking into your future

How does it look? Rosy? Free of cancer? You hope! But hoping isn't enough. Of every 6 Americans who get cancer this year, 3 will die because science still has no cure for them. It will take research . . . *lots* of research . . . to find that cure. And research, let's face it, takes money. Pitch in and help. Send a generous check . . . right now . . . to "Cancer" in care of your local Post Office.

American Cancer Society

Good news to TEXO dealers!

"Chick today . . .

Check tomorrow!"

TEXO "QUIK CHIK" Starter Feed Promotion

This outstanding promotion for February and March is designed to attract favorable customer attention. It sells TEXO Quik Chik Starter Feed with a special incentive offer, at Burrus Feed Mills' expense, that leads to further stimulation of TEXO Growing Feed.

TEXO'S 1957 Merchandising and Promotional plans are the most comprehensive ever offered in our history. TEXO dealer territories are available to qualified dealers. If you would like further information on how to cash in on this big year for TEXO Feeds, write to:

BURRUS FEED MILLS P.O. BOX 1688 FORT WORTH, TEXAS

FOR BEST SERVICE ON VITAMINS A & D

ALL TYPES — ALL POTENCIES
PLUS
PREMIXES

Call

RUDY ESCHENHEIMER COMPANY

BOX 147
CHILLICOTHE
MISSOURI
PHONE 1047

Serving the Feed Trade For Over 20 Years

Effect of Dietary Fat on Requirements of Vitamin B_{12} by the Chick

● M. R. Spivey Fox, Ligia O. Ortiz and George M. Briggs, U.S. Department of Health, Education and Welfare, Bethesda, Md.: Proc. Soc. Exp. Biol. and Med., Vol. 93, No. 3, pages 501-504 (December, 1956).

The maternal diet as well as the diet of the chick itself influences the young chick's dietary requirement of vitamin B_{12}. The type of diet, the nutrients and the ingredients it contains also influence the chick's requirement for this vitamin. One of these ingredients is fat. Briggs and his co-workers reported earlier that a severe deficiency could be produced in undepleted chicks by the addition of 20% fat to a corn-soybean oil meal diet. The present paper deals with the increase in the vitamin B_{12} requirements of the chick receiving this high fat diet.

The chicks obtained from a commercial hatchery at one day of age were fed the experimental diets for a four week period. The basal ration was a corn-soybean oil meal diet fortified with vitamins and minerals. Two diets were fed in respect to fat content. One contained 3% fat and the other 22%. The vitamin B_{12} content of these diets was varied from 5 to 2000 gamma per kilogram of diet. In some lots of chicks the vitamin was injected subcutaneously rather than mixed in with the feed.

It was found that 5 gamma of vitamin B_{12} promoted optimum growth in all tests with the low fat diet. On the other hand optimal growth was obtained on the high fat diet only when fortified with 50 to 100 gamma of vitamin B_{12} per kilogram of diet.

Livers of chicks from the various diets were analyzed for vitamin B_{12}. It was found that in the absence of dietary B_{12}, the amount of vitamin in the liver was essentially the same for both diets. It was also found that as the dietary level of the vitamin increased, the level in the liver increased. The proportion of the intake retained in the liver was essentially the same up to the 100 gamma level with each diet. As the level in the diet increased over the 100 gamma level to 2 milligrams, the percentage of the intake retained decreased, although the total amount retained was higher than at the lower levels. Storage of the vitamin in the liver was slightly better when it was injected than when it was fed.

The authors concluded that the high level of fat did not deplete the animal's chief store of the vitamin nor did it prevent the normal absorption of vitamin B_{12} from the intestinal tract and its subsequent storage in the liver. The authors also feel, while they do not have positive evidence, that these studies suggest a possible role for vitamin B_{12} in the utilization of dietary fat.

COMMENTS:

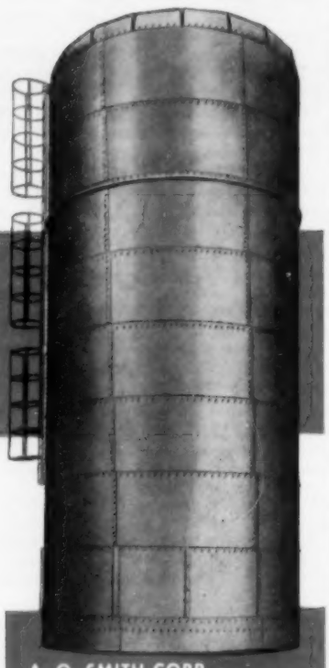
In this study it was found that the incorporation of 20% fat into a corn-soybean oil meal diet increased 10 to 20-fold the vitamin B_{12} requirements of nondepleted chicks for optimal growth to four weeks of age. The requirement was between 0 and 5 gamma per kilogram of diet (3% fat) and between 50 and 100 gamma with the high fat diet. Changing this to a milligram per pound basis, the requirements would be .0023 mg. per pound of low fat diet and .023 to .046 mg. per pound of high fat diet.

At the present time most poultry starting feeds contain approximately .003 mg. per pound of feed added in the form of a vitamin B_{12} supplement, plus whatever amounts are contributed by alfalfa and animal and fish by-products contained in the feed. The total vitamin B_{12} content of these feeds will probably run about .004 to .005 mg. per pound. This is the level reported by the ANRC as the tentative chick requirement.

While there are not any poultry feeds being manufactured at the present time containing 22% fat, there are a number being manufactured containing 6 to 9%. On the basis of this report, .004 to .005 mg. of vitamin B_{12} per pound of feed would be too low in these feeds. Since no figures are available for practical levels of fat, it can only be suggested, on the basis of these results, that a high-

SPROUT-WALDRON'S Big Plus

gives you bigger savings in bulk storage and handling



A. O. SMITH CORP. manufacturer
SPROUT-WALDRON exclusive distributor

Permaglas® STORAGE UNITS

Everybody's going bulk. They must, or miss the savings offered by bulk buying and bulk handling. You can multiply these savings with Permaglas Storage Units and Sprout-Waldron's BIG PLUS in bulk handling equipment and services.

Permaglas Storage Units are made of glass-coated steel—inside and out. They are vermin- and moisture-proof, and free of corrosion . . . provide more storage space per sq. ft. of ground area, more value per investment dollar . . . can be quickly erected by factory crews. Air is excluded from the structures and maintenance costs are practically non-existent! And feed ingredients stay fresher in Permaglas.

MECHANICAL SWEEP-ARM BOTTOM UNLOADER

This exclusive device makes possible the unloading of the most difficult-to-handle materials. Bridging is eliminated. It provides the first workable method for feeding out tons of bulk material rapidly and efficiently . . . on a first-in, first-out basis. Easy to install and maintain . . . simple to operate. Optional with Permaglas Storage Units and also available for adaptation to other storage structures.

For full details on Permaglas Storage Units and the Mechanical Sweep-Arm Bottom Unloader, write for Bulletin PS-4-220.

SPROUT-WALDRON'S Big Plus

At Sprout-Waldron, you can get complete information on storage units of all kinds . . .

PLUS expert, unbiased guidance on the selection of bulk handling equipment because Sprout-Waldron offers full lines of mechanical and pneumatic conveying equipment and bulk trucks . . .

PLUS a reliability based on 90 years of dependable service to the feed industry and a desire to continue for another century.

These BIG PLUS extras are yours at no additional cost.

GO BULK via SPROUT-WALDRON!

FE/452

PELLET MILLS • HAMMER, ROLLER, ATTRITION, AND BURR STONE MILLS • MIXERS • SCREW, BELT, AND PNEUMATIC CONVEYORS • BUCKET ELEVATORS • CUTTERS, CRUSHERS, AND FEEDERS • REELS, SEPARATORS, AND ASPIRATORS • BULK FEED TRUCKS • A. O. SMITH PERMAGLAS STORAGE UNITS • DUNLER BROS. FLOUR MILLING EQUIPMENT

SPROUT-WALDRON
The Best in Milling Equipment Since 1856
61 LOGAN STREET • MUNCY, PA.
Exclusive Canadian Distributors: Strong-Scott, Limited, Winnipeg

Do Your Feeds Have These 3 essential Ingredients?

SAFETY Guaranteed Potencies! No Chance for Spotty Distribution!

SERVICE Latest Nutritional Advancements . . . Free Formula Service!

SATISFACTION Customers repeat! Your feeds give efficient high production at low cost!

Write Today For The Safe, Sure Answer To Your Fortification Problems

Blatchford's
ESTABLISHED IN 1909
MAIN PLANT & OFFICES: WAUKEGAN, ILL. Midwest Plant: Des Moines, Iowa. West Coast Division: Nampa, Idaho

Jack E. Dinkel

NAMED REPRESENTATIVE—**Jack E. Dinkel has been appointed field service representative in southeastern Iowa for the Dr. Salsbury's Laboratories, Charles City, Iowa, H. G. Bos, sales and advertising director, has announced. A 1949 graduate of Iowa State College, where he majored in animal husbandry, Mr. Dinkel has been associated with sales in the feed, poultry and livestock fields for seven years.**

er level of vitamin B_{12} fortification is needed in fat fortified chick starter and broiler feeds.

This increase of vitamin B_{12} requirements of the chick fed high fat diets is in contrast to that found with choline which is also involved in fat metabolism. Maryland workers in 1956 reported that amounts of choline in excess of the 600 mg. per pound of diet currently recommended by the ANRC were not beneficial in rations containing 4% added fat.

It would seem from reason alone that as the energy of the feed is increased and the amount of feed required to produce a pound of gain decreased, each pound of the higher energy feed would need to carry higher levels of the essential amino acids, vitamins and minerals. While in a number of instances, such as with vitamin B_{12}, this has been found to be true, in others, such as with choline, it has not been found so.

Poultry feeds have changed considerably in recent years and there is no doubt that the specific nutrient requirements of chicks fed these feeds have also changed. There is a definite need to reevaluate the dietary requirements of chicks in light of the new modern high energy feeds. However, until this is accomplished, it would seem best to increase the vitamin and other nutrient fortifications in the feed whenever the energy level of a feed is increased through the use of added fat.

FIRST BARGE SHIPPED

LOUISIANA, MO.—Pike Grain Co., Louisiana, shipped a barge load of 42,000 bu. of soybeans from the new MFA elevator terminal located at the south end of the city. It was the first barge load sent out from the terminal.

BUY VITAL COD LIVER OIL and you know you are buying the best!

VITAL is Icelandic Cod Liver Oil of medicinal quality.

More poultry, turkeys and animals are fed Vital Cod Liver Oil than any other cod liver oil in the United States. Vital Oil is available in 5-lb. cans, drums and bulk and in several different potencies.

Write or Call:

Midland-Western, Inc.

160 West Spruce St.
Reading, Pa.

Distributorships still available in some areas.

CUT Phosphate COSTS

APPROXIMATE COMPARATIVE COST PER UNIT OF EFFECTIVE PHOSPHORUS
(Delivered Midwest)

Soft Phosphate	$2.55
Bone Meal	6.65
Dicalcium Phosphate	4.60
Defluorinated Phosphate	4.50
Low Fluorine Rock Phosphate	4.20

Soft Phosphate

WRITE for brochure, research data, sample & price

Soft Phosphate Inc., Box 31, Media, Pa.

More and More . . . Feed Mills Are using More and More Stabilized ANIMAL FATS and MEAT PROTEINS

Find Out Why . . . WRITE
NATIONAL RENDERERS ASSOCIATION
Organized In 1933
30 N. LA SALLE ST.
CHICAGO 2, ILL.
Phone FR 2-3289

Dawe's

Vitamelk RUMINANT PROGRAM

NOW DAWE'S MAKES FEED FORTIFICATION PUSH-O-BUTTON-EASY

THIS IS THE DAWE'S VITAMELK RUMINANT PROGRAM:
YOU Push One Button—WE Supply:

1. Vitamelk—a comprehensive vitamin, trace mineral, and unidentified rumen factors fortifier. Full fortification, in one package.
2. Complete formulations for farm-tested livestock feeds in each stage of growth and production.
3. Tag information for today's complicated feed tag requirements.
4. Complete feeder-instructions on how to use Vitamelk-fortified feeds, to best take advantage of their great built-in power.
5. Dawe's quality control laboratory is a remarkable help in solving special problems.
6. Merchandising and sales counsel.
7. Complete and continuing responsibility for applying the latest nutritional knowledge to your feeds.

COMPLETE PROGRAMS for Poultry, Swine, Dairy Cattle, Beef Cattle, Turkeys

Let us figure the cost of Dawe's Vitamelk delivered to your mill. Write us.

Do you want to step ahead of your competition in dairy feeds? To build your volume on the lasting foundation of a Ruminant Program based on *results?*

You can, when you use the new Dawe's Vitamelk Ruminant Program.

Feeds based on this program bring dairymen nutritional improvements on a par with those previously offered only for poultry and swine. Results are demonstrated in higher herd averages, steadier milk flow, better feed conversion, improved vigor and appearance.

You retain the economy of local mixing, yet take advantage of Dawe's big-scale, centralized, scientific nutrition research.

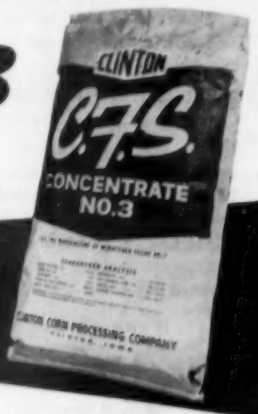
Dawe's Laboratories, Inc.

4800 S. Richmond Street Chicago 32, Illinois

WORLD'S OLDEST AND LARGEST SPECIALISTS IN VITAMIN PRODUCTS FOR FEEDS

C.F.S. #3 concentrate

(Corn Fermentation Solubles)



FOR POULTRY AND SWINE CONCENTRATES

Improves efficiency for the feeder
Improves profits for you

Developed for modern, high efficiency rations, and for manufacturing registered feeds, Clinton C. F. S. #3 is a free-flowing concentrate of Corn Fermentation Solubles dried on nutritious corn by-products.

Exceptionally potent in organic and inorganic factors, important B vitamins and quality proteins, Clinton C. F. S. Concentrate #3 is a profitable ingredient for the feed manufacturer or mixer. It can partially replace or even eliminate more costly sources of unidentified growth factors and other important nutrients.

Clinton C. F. S. Concentrate #3 will provide you additional profit . . . will provide the feeder improved growth, higher feed efficiency.

Write for full details.

Quality products
FROM THE WORLD'S CORN CENTER

CLINTON

CLINTON CORN PROCESSING COMPANY
CLINTON, IOWA

Oregon Feed Men Hear Talks on Nutrition Studies

CORVALLIS, ORE. — The use of antibiotics and stilbestrol in livestock feeds has returned more profit to the producer in recent years and added more knowledge of livestock feeding than any other recently discovered feed additives, feed men were told at the 15th annual Oregon Animal Industry Conference at Oregon State College.

At the same time, said Dr. O. O. Thomas of Montana State College, it should be recognized that the new "miracle" ingredients cannot do the job alone; balanced rations are necessary before maximum benefits can be realized.

Dr. Thomas told some 200 feed manufacturers and dealers at the conference that feeds must be formulated which not only contain required nutrients but also more nutrition per pound of feed.

He made these remarks in reviewing research on the use of antibiotics and stilbestrol in livestock feeding.

Dr. Thomas noted that experiments show antibiotics in pig rations can increase growth rates by 5 to 20%, with the effect more marked in younger pigs than older ones. The response, he said, is almost directly proportional to the disease level.

He also cited work showing the value of antibiotics for increasing growth rate of calves and decreasing scours.

Ruminant Feeds

Feeding antibiotics in beef fattening rations has shown variable results, Dr. Thomas said.

An average of several experiments, he continued, indicated that growth rate is increased 5 to 8%. He discussed some of these experiments in connection with stilbestrol feeding.

The addition of antibiotics to lamb fattening rations has also shown variable results, according to the Montana animal husbandry professor. He said it appears that the response of lambs to antibiotics may be greater in commercial feed lots than in tests involving small numbers. Not only is the disease hazard reduced, but there is indication that antibiotics may decrease the incidence of enterotoxemia.

Discussing stilbestrol, Dr. Thomas said that averages of many experiments at experiment stations indicate that feeding stilbestrol at a level of 10 mg. per day will increase gains 17% and result in 12% feed saved.

He went on to review reports of recent experiments with stilbestrol feeding and implantation and stilbestrol and antibiotic combinations.

In addition to work with fattening rations, he mentioned studies in which stilbestrol feeding improved gains of cattle on pasture. Also cited was research in stilbestrol implants improved gains of steers on pasture. In some work with stilbestrol in lamb feeding, gains were improved and no undesirable carcass effects were observed; in other feeding or implantation studies, carcass grades were lower.

Calorie-Protein Ratios

Dr. G. F. Combs, professor of poultry husbandry at the University of Maryland, discussed the calorie-protein ratio used to help balance the protein supplied in relation to energy level of a ration.

Dr. Combs reviewed on C-P ratios and explained factors affecting ratios.

He noted in connection with broilers, for example, that use of rations containing sub-optimal protein levels in relation to energy has been shown to increase feed intake, decrease feed conversion, impair growth, increase fat deposition, reduce moisture content of the carcass and increase the tendency of birds to pull feathers.

The primary weakness of the C-P ratio at present, he said, is lack of consideration of protein quality or the level of each essential amino acid. The quality of the protein used would be expected to markedly influence the C-P ratio.

In presenting data on C-P ratios for broilers, he said it seems advisable to shift toward the higher protein levels if no additional cost is involved since this would be moving away from the "protein deficiency stress" toward optimum protein nutrition. In this connection, some results suggest that an imbalance in C-P ratio may induce a nutritional stress predisposing the birds to endemic disease.

Dr. Combs provided suggested C-P ratios and also mentioned some of the factors influencing the ratios—such as protein quality or levels of amino acids, rate of growth, level of egg production, body size of hens, finish desired in broilers and turkeys.

ELTON

"B" SERIES CONVEYORS

HAVE POWER LIFTS AND COME IN SIZES FROM 10 TO 16 FEET. ONE OF THESE IN YOUR PLANT WILL SAVE ITS COST MANY TIMES.

WHY NOT SAVE TIME, SPACE AND LABOR *Now?*

SEND FOR A CATALOG ON THE COMPLETE LINE . . . .

CHANTLAND MFG. CO.
BADGER, IOWA

Diethylstilbestrol
Nicarbazin
Nitrophenide
Arsanilic Acid
Sulfaquinoxaline
Dienestrol Diacetate
Nitrofurazone
Calcium Salts
Furazolidone
Trace Minerals
Vitamins

Doty

RUNS THESE TESTS

We are fully equipped with modern facilities for the tests of the new feed additives as well as protein, fat, fiber, etc. We check your feed potency regularly at low cost.

USE OUR LABORATORY PROTECT YOUR QUALITY

With Our Low-Cost Ingredient Assay Plan

Your feeds can be labeled "Laboratory Controlled" at remarkably low cost to you. Write or call for full particulars.

Doty

LABORATORIES
Cereal Technologists
1435 N. Clay St. GRand 1-8580
KANSAS CITY 16, MO.

MISS CITRUS PULP-ITUDE — The Citrus Processors Assn. has named Patsy Fillyaw, 19, Orlando, Fla., Miss Citrus Pulp-itude as part of their promotion of citrus pulp for livestock feeding. Miss Fillyaw gives an idea of how cattle go for pulp as she makes friends with a calf in the picture above.

fat content of ration, temperature, feed intake, exercise and others.

Dr. J. H. Hare of Chas. Pfizer & Co., Inc., Terre Haute, Ind., discussed use of antibiotics in feed to control chronic respiratory disease in poultry. He said that while antibiotics may not get rid of the CRD organism, they help birds maintain production in times of stress. Various stress conditions can set off outbreaks.

Since CRD is usually associated with a stress condition, scientists have been seeking possible relationships of nutritional deficiency and disease outbreaks. In Texas tests, chicks receiving higher than normal vitamin supplementation reached 3-lb. weights 10 days sooner than chicks held at normal vitamin levels.

The combined use of a high-level antibiotic and vitamin-reinforced ration for a few days when CRD is chronic has been suggested by researchers.

Dr. Hare discussed various studies with antibiotics and CRD. Regarding Terramycin, he said that addition of 100 to 150 grams per ton of feed is currently recommended for limited periods when birds are under stress. Some recent tests have shown even lower mortality precentages when levels were increased to 500 grams per ton. Mortality of infected and untreated birds averaged 58%, compared with 8% for birds receiving the antibiotic. Average weights of treated birds were heavier than for surviving untreated birds.

Other topics at the conference included a report by Dr. Thomas on supplemental feed for ewes wintered on range forage. He said that in general, the cheapest supplement tested at Montana has been ½ lb. of a grain pellet averaging 11% protein. Pellets containing a higher level of protein or fed at a level of ⅔ lb. increased feed costs to a point where ewe returns were lowered even though they produced more lamb per ewe, had a higher lamb crop, less dry ewes and gained more weight during the winter feeding period.

Dr. J. E. Parker of Oregon State and Fred West of the Oregon Feed & Seed Dealers Assn. acted as co-chairmen for the two-day conference, which was sponsored by the college and the association. The welcome address was given by the association president, William E. Stoll.

Oregon faculty members included on the lecture program were Dr. J. S. Butts, Dr. I. R. Jones, Dr. J. E. Oldfield, Herb Howell, Dr. J. R. Haag and Roger Sprowls.

AN ECONOMICAL SOURCE of High Quality PHOSPHORUS

Pollyphos

Defluorinated Phosphate
19% Phosphorus

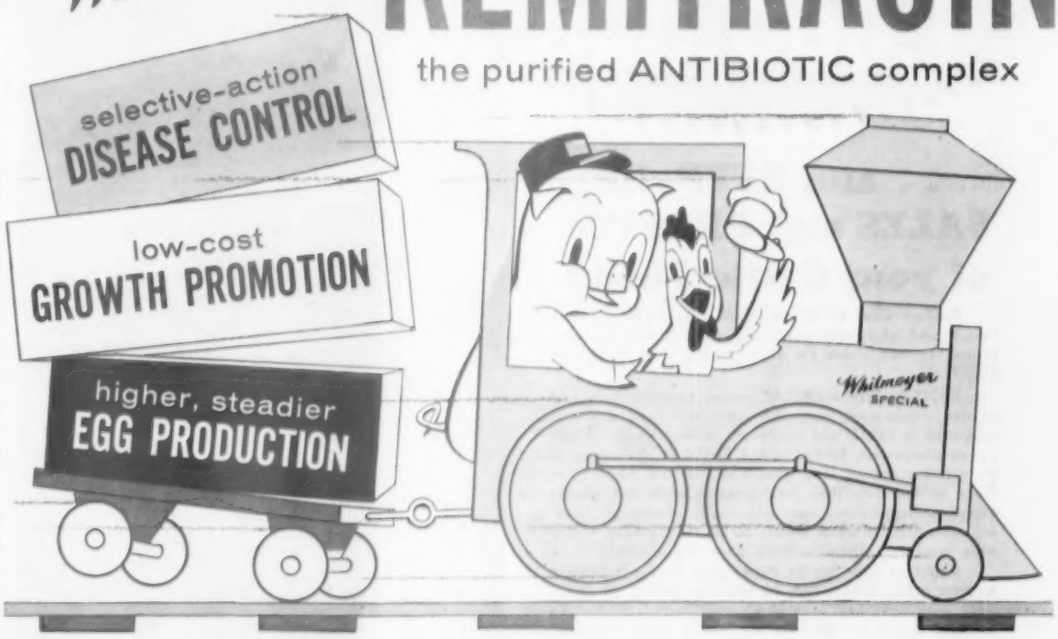
BUTLER CHEMICAL CO.
BOX 938
PHONE HOUSTON ORchard 2-7587
GALENA PARK, TEXAS

SALES AGENTS: Warner Brokerage Co., Inc., Minneapolis; Carroll Swanson Sales Co., Des Moines; James P. Sprigg Co., Los Angeles; Feed Products, Inc., Denver.

off to a fast, healthy start with

Whitmoyer® KEMITRACIN

the purified ANTIBIOTIC complex



THE BIG QUESTION is not whether to use antibiotics in feed, but which one to use. You've read all the claims and counter-claims and the ads get bigger all the time.

Before you make your final selection be sure you try Kemitracin. Tests will prove that there is *no finer antibiotic for feed supplementation available today.*

KEMITRACIN STAYS IN INTESTINAL TRACT LONGER... GIVES SELECTIVE ACTION. Unlike many commonly employed antibiotics which are rapidly absorbed, Kemitracin is *not* absorbed from the intestinal tract, but is retained where its antibiotic activity can do the most good.

Kemitracin fights disease with *selective action.* By concentrating on the dangerous disease-producing bacteria, the beneficial types responsible for the synthesis of vitamins and other unidentified growth factors are left unharmed.

ECONOMICAL KEMITRACIN IDEAL FOR HIGH LEVEL OR LOW LEVEL FEEDING. Use a high level for disease control (blue comb, air sac, stress conditions, swine enteritis)... or for boosting egg production. Use a low level for growth promotion. Kemitracin mixes thoroughly with feed and is used at the same gram level as any other quality antibiotic.

COMPLETE SCIENTIFIC DATA AVAILABLE. Get the proof that Kemitracin is your best antibiotic buy! Write today! Another suggestion—stock and recommend AQUATRACIN for use where an antibiotic in the drinking water is indicated. It's the same purified antibiotic complex in completely soluble form.

Whitmoyer LABORATORIES INC.
Manufacturing Chemists

Distributors and Warehouse Stocks Conveniently Located.

IN CANADA: WHITMOYER LABORATORIES, LTD.
Yarmouth, Nova Scotia

BOX FS-3A7, MYERSTOWN, PENNA.

PRODUCTS OF SCIENTIFIC MERIT

BAGS
BURLAP, COTTON
PAPER PLAIN OR PRINTED
TRUCK COVERS
TWINES
MAX KATZ BAG CO.
INDIANAPOLIS, IND.

NELLIS
FEED COMPANY
Brokers
of Feed Ingredients
4010 Board of Trade Bldg.
WAbash 2-7322
TWX 623
Chicago 4, Ill.

Use Feedstuffs WANT ADS for RESULTS

Wayne Feed Dealers Complete Forums

MASON CITY, IOWA — Wayne Feed dealers from northern Iowa and southern Minnesota gathered at the Hotel Hanford here recently for the second and final two-day retail sales and service forum, sponsored by Allied Mills, Inc.

These forums, the first of which was conducted here four months ago, were under the direction of John I. Hall, head of Allied Mills' sales training division, Libertyville, Ill., and his associate, Lloyd Siberell.

The purpose of the forums, according to Mr. Hall, is to train dealers to meet the challenge of selling in today's fast-changing economy.

Men completing requirements of the two forums were honored at a banquet at which they were presented with plaques by Bob Zinn, Wayne district sales manager, in behalf of E. D. Griffin, Chicago, general sales manager.

Receiving awards were Glennis Orpin and Lawrence Bonker, Northwood, Iowa; Jack Brimer, Mason City; Verle Miller, Fertile, Iowa; Kenneth Kraft, Kanawha, Iowa; Keith St. John, Fairmont, Minn.; Harold Lindaman, Vinton, Iowa; Robert Metz, Tama, Iowa; Donald Rausch, Lake Crystal, Minn.; Marlin Drape, Fredericksburg, Iowa; Burnell Wilker, Elkader, Iowa; Irvin Kessler, Riceville, Iowa; Delmont Martin, Wanamingo, Minn.; Jerry Biehn, Dover, Minn.; Leroy Witzel, Kasson, Minn.; Leon J. Theison, Dolliver, Iowa; DuWayne F. Klein, Algona, Iowa; Elmer Maahs, Whittemore, Iowa; Johnny Youngwirth, Wesley, Iowa; Harold Zook, Manson, Iowa; Harold Green, Sac City, Iowa; Jack Hartig, Barnum, Iowa.

Step up the "Conversion Factor"

OF YOUR BEEF AND DAIRY FEEDS with

RUFIS®

(RUMEN) (FEED) (INOCULANT) (SUPPLEMENT)

Patent No. 2560830

NATURAL LIVE RUMEN BACTERIA CONCENTRATED

Contains no harmful or cultured bacteria and

INSURED for $1,000,000

. . . and STEP-UP SALES and PROFITS of your Cattle Feeds!

Feeders want feeds that convert to meat and milk f-a-s-t, and at lowest possible cost. One way you can assure top conversion for your formula feeds is to add RUFIS.

RUFIS is **THE NATURAL** rumen bacteria from fast gaining government inspected cattle stabilized and concentrated in cobalt and peptones. In recent tests a well known midwestern feeder added RUFIS to the ration of his growing calves. They gained up to 30% faster than those in test lot. Their hair became slick and glossy; digestive disturbances were practically eliminated; feeding costs were slashed almost 20%; they graded higher when marketed. PROOF—Rufis gives top results.

RUFIS IS NOT TO BE CONFUSED WITH INFERIOR ARTIFICIALLY CULTURED PRODUCTS. THERE IS ONLY ONE RUFIS. It has been thoroughly tested by leading colleges and in the feed lot for over 4 years. RUFIS IS INSURED FOR $1,000,000.

RUFIS can be fed with stilbestrol. 3 to 3½ lb. gains have been commonplace. It is easy to mix. Cost is low. PLAN NOW to add RUFIS to your Formula Feeds. Step up the CONVERSION FACTOR! Give your customers the EXTRA FEEDING RESULTS that mean EXTRA TONNAGE for you. **WRITE for complete FACTS TODAY!**

Digestive disturbances are greatly reduced and gains are stepped up when RUFIS is added to the ration of lambs and other ruminants.

MERCHANTS CHEMICAL CO., INC.

605 LEAVENWORTH ST.

OMAHA, NEBRASKA

OFFICES IN:

CHICAGO 2100 So. California Ave. Chicago 8, Illinois
CINCINNATI 2923 Spring Grove Ave. Cincinnati 25, Ohio
DENVER 1211 West 46th Street Denver 11, Colorado
LOUISVILLE 4007 Crittenden Drive Louisville 9, Kentucky
MILWAUKEE 1100 So. Barclay Street Milwaukee 4, Wisconsin
MINNEAPOLIS 111—22nd Avenue, N.E. Minneapolis 18, Minn.
NEW YORK 60 East 42nd Street New York 17, New York
SOUTH NORWALK 55 Day Street South Norwalk, Conn.

YES! I would like to know more about RUFIS! Please send your Brochure!

Name_____ Title_____

Firm Name_____

Address_____

City_____ State_____

Meat-Type Hog Shows Better Feed Conversion In Iowa Experiments

AMES, IOWA—Test records on 600 pigs show that raising meat-type hogs is paying in a substantial saving in feed cost per pound of gain, Dr. Ralph Durham, animal husbandman at Iowa State College, announced recently.

Dr. Durham said the researchers found that for every one tenth inch less backfat, the pig, on the average, used 4½ lb. less feed for 100 lb. gain.

In the tests boar pigs and their barrow brothers were fed the same fattening ration. Researchers kept records on the barrows' carcass yields as well as on feed conversion efficiency, rates of gain and backfat measurements. They found the depth of the backfat probe of the boars was correlated with the feed conversion rate of the boar and barrow brothers, he said. (It had been established in earlier research that the leanness of the backfat was correlated with the meatiness of the carcass.)

Dr. Durham said since a reduction in backfat brings an increase in feed efficiency, it is possible to select breeding stock for low backfat thickness plus rate of gain and get a hog that is both fast-gaining and an efficient meat producer. There was not a pig of the entire 600 on the tests, Dr. Durham said, that didn't weigh more than 200 lb. at 6 months.

CSC Net Earnings Total $2.8 Million

NEW YORK — Commercial Solvents Corp. reports for the year ended Dec. 31, 1956, consolidated net earnings of $2,830,591, equal to $1.07 per share, after deducting extraordinary net charge of 13¢ per share, on 2,636,878 shares of common stock. Sales for the year were $58,745,254.

A dividend of 25¢ per share was declared Feb. 25 on the outstanding common stock of the corporation, payable March 29, 1957 to stockholders of record at the close of business on March 6, 1957. Previous payment was 25¢ per share Dec. 26, 1956.

for the FEED INDUSTRY

- Chemical Analyses
- Vitamin Assays
- Drug Assays
- Spectrographic Analyses
- Chick Feeding Tests
- Consultation
- Formula Reviews

Write for Schedule of Charges

FEED SERVICE DIVISION
LIME CREST RESEARCH LABORATORY
R. D. 1, Box 67 Newton, New Jersey

LIMESTONE PRODUCTS CORP. OF AMERICA

announcing

vanco A

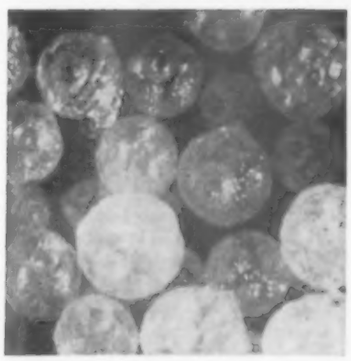
the ALL NEW DRY VITAMIN A

Unequalled for...

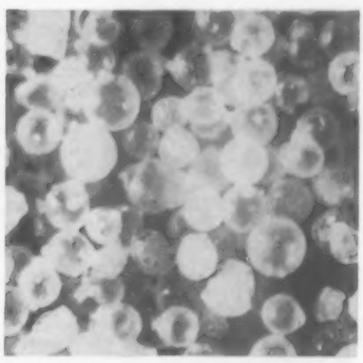
STABILITY...even with high moisture, minerals, and in pelleting,

AVAILABILITY...rapidly and completely utilized, and

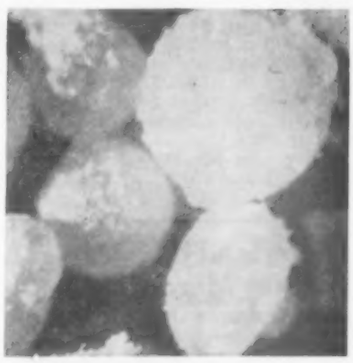
MICRO-UNIFORMITY...allows complete, accurate distribution in feeds.



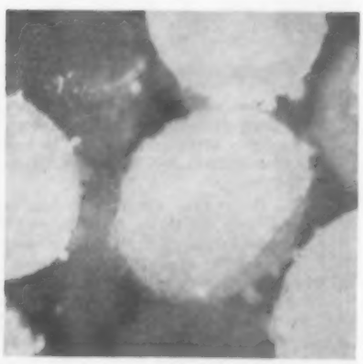
COMPETITIVE PRODUCT X



VANCO A



COMPETITIVE PRODUCT U



COMPETITIVE PRODUCT V

The particle size of VANCO A is carefully controlled to make the product free-flowing, uniform and dust-free. This assures accurate and complete dispersion of the Vitamin A in both premixes and in complete feeds.

Each million units of Vitamin A is evenly distributed in 20,000,000 uniform beads of VANCO A...40 times as many as in other leading brands.

Particle size determinations were run on several commercial Dry Vitamin A products with the results shown in the table below.

Microphotographs of the same commercial Dry Vitamin A products are shown at the left with VANCO A. All are magnified 412X.

VANCO A was unequalled for micro-uniformity... and as demonstrated in other tests for Stability and Availability as well.

PARTICLE SIZE COMPARISON OF DRY VITAMIN A PRODUCTS	
DRY VITAMIN A PRODUCT	APPROXIMATE NUMBER OF BEADS PER MILLION UNITS OF VITAMIN A
VANCO A	20,000,000
Competitive Product X	500,000
Competitive Product V	360,000
Competitive Product U	95,000

Write today for a free sample of Vanco A and this detailed brochure.

*Patents applied for

VAN CAMP LABORATORIES

Division of VAN CAMP SEA FOOD COMPANY, INC., Terminal Island, Calif.

ILLINOIS NUTRITION CONFERENCE—Several speakers, well-known in the field of animal nutrition, helped pull a record crowd of 554 delegates to the Fifth Annual Feed & Nutrition Conference at Champaign. A few of them are pictured here. From the left: Dr. L. E. Card, University of Illinois, who was chairman of the afternoon session; Dr. Damon V. Catron, Iowa State College, Ames; seated, left to right, Dr. H. R. Bird, University of Wisconsin, Madison; Dr. Glenn W. Salisbury, University of Illinois; Dr. Roland M. Bethke, Ralston Purina Co., St. Louis; standing, Dr. H. M. Scott, University of Illinois; Dr. K. A. Kendall, University of Illinois; Dr. R. E. Brown, University of Illinois; and Dr. F. W. Quackenbush, Purdue; (with microphone) Dr. A. H. Jensen, University of Illinois.

DISTILLERS FEED CONFERENCE

(Continued from page 16)

of the existing data. Such factors as contamination of the pure chemicals used in the experimental diets, availability of the elements from natural sources, reliability of determination methods, interactions of the various elements in absorption, excretion, function, and storage within the body must all be taken into account."

Hog Business Changing

The hog business is one of phases of agriculture undergoing an economic evolution at the present time, Dr. Damon Catron of Iowa State College said in discussing trends in swine nutrition and management. Efficient competition from other meat producing animals is forcing greater specialization, increased application of research findings and continued striving for increased efficiency.

At present, Dr. Catron said, the swine business is about where the poultry business was in the 1930's as far as production methods are concerned. In general, the average producer is greatly handicapped with inadequate housing and equipment. His mortality is too high, feed efficiency poor and the quality of his product can certainly stand improvement.

"The handwriting is on the wall," Dr. Catron declared. "Hog producers who cannot become efficient will be squeezed out—unless inefficiency is greatly subsidized."

If present research know-how could be applied, the expendable income from hogs could be increased by at least $3 per market hog or a total of $270 million per year, Dr. Catron said.

Difficult problems now facing the swine industry include: (1) Unstable prices caused by great seasonal fluctuations in farrowing and marketing; (2) relatively high production costs in comparison to average hog prices (lacking the bargaining power and ability to keep production controlled and prices in reasonable relation to costs); (3) too much fat pork; (4) inadequate housing and equipment—probably the first limiting factor affecting efficiency; (5) inefficient management and disease control.

Dr. Catron noted that much progress has been made in nutrition research but that its application is held up by lack of know-how and/or lack of proper housing and equipment. It's time, he said, that the hog producer recognized that we have just about hit the research ceilings in trying to compensate for poor management and inadequate housing via the feed bag.

He discussed various trends in production practices—including less use of pasture for pigs, more use of corn silage for sows, more early weaning, eventual leveling off of nutritional knowhow, greater farm size, higher labor costs, more emphasis on feed efficiency.

More Drylot Feeding

For one thing, he said, the development of economical drylot rations will encourage use of controlled feeding with complete rations under concrete production-line life-cycle housing, equipment and management conditions.

In the future, Dr. Catron believes, there will be three main groups in hog production. Scientific breeders, applying the science of breeding and progeny testing, will produce the seed stock for the second group, the men with managerial ability. The second group will produce baby pigs. They will have the right housing and equipment to do the job on a multiple farrowing basis. This group may be sub-divided into two groups: First, those with pasture and limited grain will sell their pigs at 25 to 100 lb. to the third group, hog feeders, those who buy pigs to convert grain to pork or have limited facilities and want pigs to follow cattle. The second subgroup in the second group of men—those who produce baby pigs—will be those with variable amounts of pasture but plenty of grain; they will raise and feed out their own pigs.

grain and screenings specialists move to new, larger offices

HAD WHITTEN
Canadian Wheat Screenings
Canadian Oil Screenings
Milling Buckwheat

DICK WHITTEN
Flax and Wheat Screenings
Mustard
Oil Screenings

CHET COOK, JR.
Milling and Feed Grains
Wheat
Corn
Rye
Oats
Malting Barley

THE WHITTEN COMPANY
IS NOW LOCATED AT
822 FLOUR EXCHANGE

We've outgrown our former office space in the Grain Exchange and have now moved to our new, expanded quarters in the Flour Exchange Building. As Grain and Screenings specialists, we offer you services backed by a total of 58 years' experience in the field.

call us at . . .

FE-3-0358

The WHITTEN Company

822 FLOUR EXCHANGE MINNEAPOLIS 15

College Men Conduct Meetings on Stilbestrol

FARGO, N.D.—Extension livestock specialists at North Dakota Agricultural College report that they have conducted meetings in 21 counties on the use of stilbestrol in improving cattle gains and on methods of making stilbestrol implants.

Some 2,350 stockmen attended the 21 meetings, held during the past two months, according to extension livestock agents.

The college men told feeders that stilbestrol can boost gains by about ⅛ lb. per head per day, with a 10 to 15% saving in the feed bill. Best results, they said, are obtained when the animals are on a grain ration and when adequate proteins are supplied.

They recommended either of the two methods of administration—feeding stilbestrol in the supplement or implanting it. Demonstrations of implanting technique were conducted.

University of Minnesota Poultry Expert Dies

ST. PAUL — Thomas H. Canfield, Jr., University of Minnesota educator and research worker in the poultry industry, died suddenly March 10. An associate professor of animal husbandry, Mr. Canfield taught undergraduate poultry science for the past 21 years and was the author of several recent bulletins on determining the sex of young geese, turkeys and chickens.

In 1955, he received the "outstanding poultry teacher" award from the Poultry Science Assn., and the Minnesota Agricultural Education Club, a University student group, gave him its outstanding teacher award in February, 1956.

Surviving are his wife Margaret, a daughter Patricia, his parents, a brother and three sisters.

Maryland Beef Day Set for March 30

COLLEGE PARK, MD. — Drs. James R. Ferguson and E. C. Leffel of the University of Maryland animal husbandry department, and Dr. Carl B. Bender, Sperry-Rand Corp., New York, will be the featured speakers at the afternoon session of the annual beef cattle field day to be held at the University of Maryland March 30.

The morning session will be held at the beef barns where animal husbandry staff members will conduct demonstrations and discussions dealing with experimental work in cattle feeding, management of the University herd, and performance testing.

Early Lamb Crop Estimated At 1% Below 1956 Numbers

WASHINGTON — The early lamb crop in the principal early lamb producing states is estimated at 1% below the 1956 number, according to the Crop Reporting Board.

The report said the percentage of ewes lambing early is up slightly, but that a smaller crop of lambs has occurred because of reduced numbers of breeding ewes and a slightly lower lambing percentage.

Practically all of the drop in the early lamb crop is accounted for by the two leading states, California and Texas. The number of breeding ewes on farms and ranches Jan. 1, 1957 was below the previous year in each of the 10 important early lamb states except Arizona, Missouri, Kentucky and Tennessee. For the 10 states the 1957 lambing percentage (lambs saved per 100 ewes) will probably be somewhat lower than in 1956.

In general, the growth and development of the early lamb crop has been about normal. In the southeastern states, losses at lambing time were not excessive and mild wet weather favored early pasture development. In the Pacific Northwest, cold wet weather required additional flock care but death losses were not heavy. Supplemental feeding was heavy in California, Texas and Missouri where drouth had limited the supply of range and pasture forage.

New feed prospects are mostly favorable. Rains in February provided moisture to start early pasture growth, but more moisture will be needed, particularly in Texas. Pastures have developed early in Texas and the Southeast but growth is late in Missouri, California and Oregon.

California: The early lamb crop in California is smaller than last year reflecting the 6% cut in the number of breeding ewes. Present indications point to the lambing percentage and the proportion of the ewes lambing early as being about the same as for 1956. The grazing season is later than normal due to dry weather early. It is probable that this late pasture development will result in lamb marketings being somewhat later than for 1956.

Arizona: Growth and development of the early lamb crop is about normal. The early lamb crop is expected to be slightly smaller than last year. The proportion of ewes lambing early is about the same as 1956.

Texas: Present indications point to an early lamb crop considerably below that for 1956. Breeding ewe numbers are down 11% and the lambing percentage will probably be somewhat lower than a year ago due to poor pasture and range feed during the winter. The percentage of ewes lambing early will be about the same as last year. New crop lambs will probably move at about the usual date. However, the movement of old crop lambs will be dependent on rainfall and range feed supplies. More rain and adequate feed would result in wether lambs being held late to utilize the feed plus retention of ewe lambs for replacement. If additional rain is not received, the old crop lambs will probably move early or as soon as the ranges start to deteriorate.

Missouri: Breeding ewe numbers in Missouri are up 3%. This together with an increase in the proportion of ewes lambing early point to a sharp increase over 1956 in the size of the early lamb crop. Lambs and ewes are in good condition with development about normal. Pasture feed has been short.

Southeastern States: Reports from the three southeastern states indicate the early lamb crop will be about 11% larger than in 1956. The number of breeding ewes was only up about 1% but there was a substantial increase in the proportion of the ewes that lambed early. The lambing percentage for the year will probably be about the same as for 1956. Growth and development of the early lambs has been about normal to date. The warm wet winter favored early pasture growth and present prospects point to an abundant supply of green feed. Market movement will probably be somewhat early with the peak coming in the first half of June.

Northwestern States: The early lamb crop in the three important northwestern states is expected to be about the same ast last year. Cool wet weather has not been particularly favorable but death losses have not been heavy. Breeding ewe numbers are down about 3% but this was offset by an increase in both the lambing percentage and the proportion of ewes lambing early.

Idaho: Early lambing in the southwest and south central areas is nearly completed, with shed lambing in the East expected to start about the middle of March. Feed supplies are adequate with plenty of hay available.

Washington: Condition of early lambs is excellent. Feed supplies were ample during the winter and the present outlook for early green feed is good in all parts of the state. The early lamb crop will be somewhat smaller than last year reflecting the 12% drop in breeding ewes.

Oregon: The early lamb crop is expected to be somewhat larger than in 1956. The small drop in breeding ewes in 1957 was more than offset by increases in both the lambing percentage and proportion of the ewes that lambed early. Cold weather has retarded the development of green feed but the growth of early lambs has been normal due to supplemental feeding of grain and hay. Ewes came through the winter in good condition and early lambing losses were about normal.

Pittsburgh Plate Glass Co.
34% LINSEED MEAL
MEAL SALES— 424 Flour Exchange Bldg., Minneapolis 15
Telephone FEderal 8-8469
PLANT AT RED WING, MINNESOTA

1957 CHAMPION

AVAILABLE WITH OR WITHOUT MOLASSES MIXING EQUIPMENT

CAPACITY . . . the Big difference

Actual records of performance prove that CHAMPION mobile unit's large, two-ton, 150-cu. ft. capacity mixes twice as much feed as other makes do in the same length of time. CHAMPION'S greater capacity will save half of your grinding time—and it mixes and blends wet or dry ingredients to formula accuracy. The big difference is that CHAMPION capacity will put you ahead in 1957, and for many years to come. Buy the best. Buy a CHAMPION mobile unit.

Eight Reasons Why You'll Be Ahead with a 1957 Champion

- LARGE, 2-TON 150 CU. FT. MIXING UNIT
- SMOOTH, EFFICIENT MOLASSES BLENDING
- FAST, COOL, UNIFORM GRINDING
- COMPLETELY EFFECTIVE MAGNET PROTECTION
- SIMPLE, ONE-MAN OPERATION
- SPACE TO CARRY 1½ TONS OF CONCENTRATES
- TILTING, SWINGING, HYDRAULIC DISCHARGE AUGER
- TILTING, SWINGING, HYDRAULIC-LIFT DRAG FEEDER

Write today for Bulletin 651

CHAMPION PORTABLE MILL CO.
2109 COMO AVENUE SOUTHEAST - MINNEAPOLIS 14, MINNESOTA

SCENES FROM OHIO DEALERS MEETING—Directors and officers of the Ohio Grain & Feed Dealers Assn., Inc., shown at left above, met at a special luncheon during the annual convention in the Neil House, Columbus, Feb. 24-26 to discuss current association matters and to plan future meeting places. Left to right are: R. W. Rudy; A. E. Oliver, G&FDNA, Washington, D.C.; J. S. Kile; M. W. Turner; G. E. O'Brien; S. E. Salisbury; Walter Richards; A. J. Koppenhafer; Vincent Kahle; Richard Shirack; N. M. Fry; George Moorhead, and C. A. Pitstick. Shown at right are the speakers of the meeting. In the center is Ralph H. Brown, Cleveland Grain Co., Indianapolis, Ind., who spoke on "Uncle Sam and the Country Elevator." At right is Dr. Roland W. Bethke, vice president, Ralston Purina Co., St. Louis, who spoke on "Drugs and Chemical Additives in Feeds."

Delmarva Poultrymen Plan Promotion Fund

NEWARK, DEL.—A goal of $125,000 has been set by the Delmarva poultry industry as the amount to be raised for a promotional drive to acquaint the public with broilers and other poultry products of Delaware and eastern shore Maryland and Virginia.

Area farm, business and industrial groups, merchants and others interested in the welfare of the Delmarva poultry business are invited to contribute, according to a statement by Sterling White, Delmar, president of Delmarva Poultry Industries, Inc. Plans for raising the funds were made at a special meeting of the group recently in Salisbury, Md.

Most of the soliciting will be done by persons directly associated with the poultry business. The broiler industry in Delmarva is a $160 million industry which accounts for 40% of the agricultural income along the peninsula.

BEEF CATTLE SPECIAL!

NEW FEED MANUFACTURERS FORMULA

WILL IMPROVE YOUR FEED

BOVEXTRA CONCENTRATE

LIVE RUMEN BACTERIA MIXTURE

for • FASTER CONVERSION
• FASTER WEIGHT GAINS

Proper rumen function assures full utilization without digestive upsets. BOVEXTRA supplies the billions of bacteria which work in the rumen, aiding digestion and turning feed into valuable meat. BOVEXTRA is economical too . . . costs just pennies per animal for the entire conversion period.

FROM RANGE TO FULL FEED IN 8-12 DAYS

Bovextra mixed with feed makes this quick change-over possible . . . . cuts 3 to 4 weeks off marketing time.

Packaged in convenient 50-lb. bags.

EASY AND FAST TO BULK MIX

Add BOVEXTRA to your special formula or mix with commercial feed to improve the rumen function and aid digestion. Where mixing facilities are not available BOVEXTRA may be sold as a top dressing.

• WRITE TODAY FOR DETAILS AND PRICES

DR. LEGEAR

DR. LEGEAR MEDICINE COMPANY
4161 BECK AVE. • ST. LOUIS 16, MO.

Maryland Reports On Barley Pellet Tests

COLLEGE PARK, MD.—Dr. Francis Wingert, Department of Animal Husbandry, University of Maryland, said preliminary findings in swine feeding experiments conducted by the Maryland station show that pelleted barley gave better gains than ground corn or ground barley.

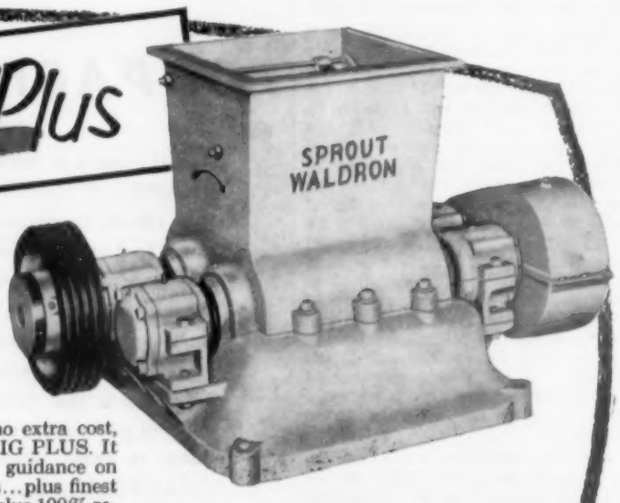
His report was part of a program which included research findings by University researchers and discussions on swine production by farmers at the recent swine field day held at the University of Maryland. Nearly 100 hog breeders and feeders attended.

North Carolina Reports Feed Tonnage Increase

RALEIGH, N.C. — Total monthly feed tonnage in North Carolina during January was 95,407 tons, compared to 86,514 tons for the same month of 1956, the North Carolina Board of Agriculture reports.

Total tons shipped to date for the first seven months of the fiscal year is 696,466 tons from July, 1956, through January, 1957, compared with 650,588 tons for the same period a year ago.

SPROUT-WALDRON CRUSHERS with the Big Plus



Built for years of rugged duty

Whatever your problem in coarse size reduction, there's a Sprout-Waldron Crusher to provide the *one best* answer. You have the widest possible selection of all types and sizes at Sprout-Waldron . . . all designed for top efficiency and economy.

Much of your pre-crushing and controlled feeding of materials can be best handled by a Sprout-Waldron Crusher-Feeder. For crushing corn cobs or reducing pressed cake in huge volumes, large sawtooth crushers are available.

With every machine, at no extra cost, you get Sprout-Waldron's BIG PLUS. It provides expert engineering guidance on installation and applications . . . plus finest workmanship and service . . . plus 100% reliability. Write for full details now.

SPROUT-WALDRON
—The Best in Milling Equipment Since 1866—
61 LOGAN STREET • MUNCY, PA.
Exclusive Canadian Distributors: Strong-Scott, Limited, Winnipeg

PELLET MILLS • HAMMER, ROLLER, ATTRITION, AND BURR STONE MILLS • MIXERS • SCREW, BELT, AND PNEUMATIC CONVEYORS • BUCKET ELEVATORS • CUTTERS, CRUSHERS, AND FEEDERS • REELS, SEPARATORS, AND ASPIRATORS BULK FEED TRUCKS • A. O. SMITH PERMAGLAS STORAGE UNITS • BUHLER BROS. FLOUR MILLING EQUIPMENT

SW

FS/475

Formal Opening of Larro Mill Planned

STOCKTON, CAL.—The new feed plant of General Mills, Inc., at Stockton will have its formal opening in April, according to an announcement from the company.

The plant, which replaces a mill at Vallejo, Cal., is the second Larro Feed plant in California. The other is at Los Angeles.

A ribbon cutting ceremony is being planned for the official opening, some time during April.

Ted R. Wallace has been named plant superintendent by A. A. Ackels, superintendent of manufacturing operations in the San Francisco office. Mr. Wallace has been with General Mills for 36 years and most recently was superintendent of packing and warehousing in the flour mill at Vallejo. Also transferred from Vallejo to Stockton was Piet Bol, who is now milling superintendent of the Stockton plant. J. B. Lee, previously in the accounting department in San Francisco, is office manager. The offices of the sales manager of the central California district are being moved from Oakland to Stockton, closer to the agricultural areas. Guy Troute has held this position since 1952.

Minnesota Reports On Geese Feeding Trials

ST. PAUL — Feeding experiments with geese at the University of Minnesota show that 10-week-old "junior geese" can increase profits for the producer who raises them and make tasty birds—if there's ever a market for them.

Dr. Paul Waibel, poultry scientist at the University of Minnesota, said another factor in favor of the younger geese is that they have less fat. This makes them more attractive to some consumers.

Dr. Waibel said if a strong market were developed for junior geese in late summer, or if they could be stored until the holiday season, goose producers would have a higher income because of lower feeding costs.

Junior geese averaged 9.65 lb. at nine weeks in the trials. The birds on pasture ate only 2.65 lb. of mash and corn per pound of growth. That's less than 9¢ per lb. and the birds could have been marketed at that age at a profit, Dr. Waibel said.

Then, the same birds were put on pasture from 9 to 18 weeks with no extra feed. During that time they gained an average of only .35 lb. Finally, the geese went on a fattening system of pasture and plenty of corn and oats. At 26 weeks they averaged 13.2 lb., but it required 11.75 lb. corn and oats per pound of weight gain during the fattening period. The result was a feeding cost during the fattening period of 29¢ per lb.

Oil Firm Proposes Safflower Expansion

LOGAN, UTAH—Safflower seed cake will be sold as a livestock feed in this area soon if a California firm is successful in securing sufficient growers to begin safflower oil extraction.

The firm has proposed to contract to buy saffower seed from northern Utah and southern Idaho farmers. It is reported that some 50 farmers agreed informally at a recent meeting to grow a total of 1,00 acres of the crop for the Pacific Vegetable Oil Co., San Francisco.

Safflower, a woody-stemmed thistle which produces seed containing 33 to 35% oil, yielded up to 1,600 lb. seed per acre in tests conducted by the Utah State Agricultural College and several farmers in the Logan area last year.

The company has proposed to contract at $70 per ton on a cleaned seed basis from local elevators. The firm would truck the seed to its Richmond, Cal., processing plant and then would truck back the safflower seed cake for sale in the area. An official of the California firm said that if acreage could be increased to 10,000 acres, an expeller plant may be constructed in the intermountain area.

Prof. D. W. Pittman of Utah State Agricultural College saw safflower growing in Iran in 1940 and began research on it in 1944. The U.S. Department of Agriculture also has sent Dr. Wade Parkey to Utah to coordinate safflower seed research in Nebraska and the West.

Oklahoma A&M Sets Short Course Dates

STILLWATER, OKLA.—Grain elevator managers from Oklahoma and surrounding states are expected to set aside March 26-27 for their annual short course at Oklahoma A&M.

Scheduled to speak on the program are Price Feuquay, Enid, chairman of the National Grain Council; Kenneth Majors, USDA extension specialist, Washington; Larry Shopen, safety engineer for the Consumers Coop. Assn., Kansas City; Darrell McNutt, Hobart farmer, and Grace Ward Smith, manager of the Alva Chamber of Commerce.

THE *NEW Melos* PORTABLE MILL - YOUR BEST BUY!!

NEW AND IMPROVED MIXING METHODS

Yes, the NEW MODEL Melos Portable Mill features improved methods of mixing as well as a heated molasses tank and trouble-free hydraulic auger drive. The 100-bushel capacity molasses and supplement mixer doesn't run when doing straight grinding. There is a powerful magnet built in to remove all metal from feed.

NEW LARGE CAPACITY STORAGE BOX FOR SACKED FEED

Powered by a General Motors Diesel engine, the Melos Portable Mill is 24" wide, which is the largest capacity made. Another new feature—a ton or more capacity feed box for storage of supplement feed. The Melos Portable Mill is mounted on a Ford two-ton "cab over engine" truck.

WRITE TODAY FOR FULL INFORMATION

Melos MANUFACTURING COMPANY
2010 HUBBELL DES MOINES, IOWA

Steady Sales, Sure Profits

are yours when you stock and promote

Pilot Brand Oyster Shell

Pilot Brand is a best-seller for feed dealers coast-to-coast. Here are important reasons why:

Pilot Brand is an ideal eggshell material.
Helps poultry raisers get maximum production of stronger-shelled eggs.
It's uniformly pure calcium carbonate, kiln-dried.
Costs less per usable pound.
Hens, chicks, turkeys, poults need it year 'round.

Powerful national advertising for more than thirty years has constantly increased sales of Pilot Brand and assured profitable repeat business for dealers everywhere.

Remember, there is no adequate substitute for Pilot Brand Oyster Shell. It's a sure-fire business builder.

Order from your distributor . . . or write to us

PILOT BRAND OYSTER SHELL FOR POULTRY

Oyster Shell Products Corporation
4619 Hampton Ave. St. Louis 9, Mo.

☆ Classified Ads ☆

Classified advertisements received by Tuesday each week will be inserted for the issue of the following Saturday. Rates: 15¢ per word; minimum charge $2.25. Situations wanted, 10¢ a word; $1.50 minimum. Count six words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Advertisements of new machinery, products and services accepted for insertion at minimum rate of $9.50 per column inch. All Want Ads cash with order.

HELP WANTED

FEED NUTRITIONIST WANTED — GIVE complete information. Address Ad No. 2496, Feedstuffs, Minneapolis 1, Minn.

SALESMAN—EXPERIENCED, TO TRAVEL eastern and central Iowa. Excellent opportunity with progressive feed manufacturer. Address Ad No. 2504, Feedstuffs, Minneapolis 1, Minn.

SALESMAN, EXPERIENCED, FOR MARYland and northern Virginia area. Salary and expenses. Give details of experience and background. Write The Baltimore Feed & Grain Co., 3341 Boston St., Baltimore 24, Md.

SALESMAN WANTED—MAN CALLING ON feed dealers and elevators who wishes to add $300@500 to his monthly income. Nationally advertised product. A natural repeat item. Choice territories open. Write P. O. Box 5074, Minneapolis, Minn.

GEORGIA AREA SALES AND SERVICE representative wanted by nationally established manufacturer of poultry health and sanitation products, vitamin and mineral concentrates. Must have car. Salary, commission, expenses. Address Ad No. 2489, Feedstuffs, Minneapolis 1, Minn.

SALESMAN 30 TO 40 — EXPERIENCED vitamin-supplement or allied field. Basic understanding of poultry and animal nutrition. Midwest territory. Willing to travel and relocate if necessary. Salary plus commission. Excellent potential. Provide details of background in first letter. Address Ad No. 2404, Feedstuffs, Minneapolis 1, Minn.

WANTED — FEED MILL PRODUCTION manager — large locally owned modern push-button mill needs top production man for complete charge. Top salary and incentive plan to qualified person. Experience must be unlimited. Age no barrier, if active. Northeast Georgia location. Capacity 5,000 to 10,000 tons weekly. Address Ad No. 2502, Feedstuffs, Minneapolis 1, Minn.

SALES TRAINEES FOR NATIONAL MANufacturer selling to feed industry. Degree in animal or poultry nutrition desirable. Some previous training in nutrition essential. Assignment after six months' training. Must be free to travel. Excellent opportunity for young man with required background and initiative. In replying state full details. Address Ad No. 2406, Feedstuffs, Minneapolis 1, Minn.

FULL TIME, SIDELINE OR BROKERAGE representative. Unusual opportunity to build substantial business in Pennsylvania or New York State for experienced man that calls on wholesale and retail feed dealers. Drawing against liberal commissions. Give details of selling experience. Replies will be held confidential unless otherwise stated. Write: Dept. J, 521 S. 3rd St., Minneapolis 15, Minn.

NUTRITIONIST — DEGREE IN POULTRY or animal nutrition. Masters or doctorate desirable. For technical service staff of national feed nutrient manufacturer. Feed formulation, formula revision, field trips, consultation with laboratory personnel regarding set-up and conduct of experimental test work, and general technical service duties. Please give full details in first letter of application. Address Ad No. 2401, Feedstuffs, Minneapolis 1, Minn.

MACHINERY SALES REPRESENTATIVES wanted in the states of Illinois, Indiana, Ohio, Kentucky and Michigan. Outstanding opportunity, commission basis. Excellent potential due to types of feed mill machinery offered. Mail complete details of selling experience. Include phone number. Sales Manager, P. O. Box 496, Dayton 1, Ohio.

HELP WANTED

PRODUCTION FOREMAN OR MILL SUperintendent for large New York feed processing firm. Excellent opportunity for man with feed background and initiative. Give full details in first letter. Address Ad No. 2506, Feedstuffs, Suite 3214, 551 Fifth Ave., New York 17, N. Y.

OFFICE AND TRAFFIC MANAGER FOR new feed plant being constructed in northern Alabama. Must know feed transit rules and rates in southern territory and have two years' accounting education or comparable experience. Address Comptroller, 2101 E. Fort Ave., Baltimore 30, Md.

SALES REPRESENTATIVES — AGGRESsive, experienced sales representatives wanted to represent us in the state of Illinois on commission basis, selling our complete lines of vitamin fortification packages, antibiotics and custom premixes to feed manufacturers. Excellent potential. Liberal commission. Write at once complete details of background and experience. Address Sales Manager, P. O. Box 496, Dayton 1, Ohio.

BUSINESS OPPORTUNITIES

FEED AND SEED BUSINESS DOING good business. Hammermill, rollermill, two mixers, pellet machine, 20,000 bu. elevator, etc. Will finance. Theilo Dodd, Concordia, Kansas.

FOR SALE — FEED MANUFACTURING plant located in Sioux City, Iowa. Capacity 100 tons per day. This plant is six years old. Pellet mill, mixers. Sell on contract. Write P. O. Box 1251, Sioux City, Iowa.

FOR SALE — MILL IN SOUTHEASTERN Pennsylvania, manufacturing feed and feeding supplements. Cash business. Will sell business, machinery, truck, etc., lease or finance land and building. Address Ad No. 2476, Feedstuffs, Minneapolis 1, Minn.

FOR SALE — FEED MFG. FACILITIES, grain elevator, hatchery, wholesale business. Located Illinois. All equipment and buildings in good condition. Death of owner necessitates this sale. Address Ad No. 2516, Feedstuffs, Minneapolis 1, Minn.

FEED BUSINESS AND DAFFIN MOBILE mill for sale—Good going business in northern Illinois. Good building fully equipped for grinding and mixing. Trackage. Priced for quick sale. Address Ad No. 2512, Feedstuffs, Minneapolis 1, Minn.

FEED BUSINESS WANTED IN SOUTHeast—Will buy for cash, wholesale-retail feed business and keep present management on salary and profit sharing plan. We have the plan and the capital to make money. Give present tonnage and facilities in first letter to Manager, Ad No. 2485, Feedstuffs, Minneapolis 1, Minn.

When you want to Buy or Sell
ELEVATORS or
FEED MILLS
See or Write Us Your Needs
We Have Some Good Ones in
OHIO-INDIANA-
ILLINOIS
MID-WEST BUSINESS EXCHANGE
Halbert C. Smith Plymouth, Ind.

SITUATIONS WANTED

SALESMAN—HIGH PRODUCER; EXPERIenced in formula feeds, ingredients, nutritional specialists. Address Ad No. 2527, Feedstuffs, Minneapolis 1, Minn.

MANAGER OF MARKET RESEARCH — Need a skilled market researcher who has feed, vitamin supplement, and water dispersibles experience? Harvard Business School graduate, 27, could relocate. Address Ad No. 2523, Feedstuffs, Minneapolis 1, Minn.

MILLWRIGHT SUPT., 42 YEARS OLD, 23 years' experience; flour, feed, corn, elevator. Wood spouting, sheet metal layout, welder. Can handle complete new construction or maintenance crew. Interested in permanent position or temporary job with permanent position possibilities. Address Ad No. 2518, Feedstuffs, Minneapolis 1, Minn.

EXPERIENCED DISTRICT SALES MANager, 33 years, college graduate, desires position in bulk or micro-nutrient field for basic manufacturer or supplier. Working knowledge of nutrition and animal health. Experienced in establishing distributors, holding sales meetings, etc. Can furnish excellent trade and business references. Will relocate. Address Ad No. 2525, Feedstuffs, Minneapolis 1, Minn.

EXPERIENCE IN ANIMAL RESEARCH—Capable of setting up experiments, analyzing data collected, and reporting on results. B.S. and M.S. in animal husbandry with minor in poultry. Nutrition background with animals and poultry. Desire position with feed, chemical or pharmaceutical company in research department. Would consider public relations or sales. Address Ad No. 2524, Feedstuffs, Minneapolis 1, Minn.

MACHINERY FOR SALE

WHIRLAWAY AIRBLAST CAR LOADERS, cast iron pulleys, new and used feed and elevator equipment. Hagan Mill Machinery, P. O. Box 574, Jefferson City, Mo.

FOR SALE—ENCLOSED MOTORS, RICHardson scales, truck scales, hammermills, oat crimpers, horizontal and upright feed mixers, sewing machines, elevator legs, screw conveyors, molasses mixers and pellet mills. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

USED MASTER 30 H.P. CALIFORNIA Pellet Mill. Excellent condition. Sabetha Machinery Co., Sabetha, Kansas.

CHAMPION MOBILE GRINDER AND MIXer units. Champion Portable Mill Co., 2105 Como Ave. S.E., Minneapolis 14, Minn.

FEED MIXER, 1-TON CAPACITY, GUARanteed first-class throughout, 5 H.P. motor drive. Ad No. 2774, Feedstuffs, Minneapolis 1, Minn.

FOR SALE—FACTORY REBUILT PRATER Blue Streak No. 40 Hammer Mill with 60 H.P. motor and collector. Robert J. Westfall, Fort Madison, Iowa.

TWO HEIL SELF-PROPELLED ALFALFA harvesters. Good condition, one new engine, other 2 new tires. Large stock of parts. Brummond's De-Hi Alfalfa Farms, R. 3, Mayville, Wis.

FOR SALE—ONE NO. 27 SCHUTTE MILL, 50 H.P. size; one No. 17 Ajacs Jacobson Mill, 50 H.P. size; one rebuilt No. 5A Blue Streak Mill, 60 H.P. size. Write Prater Pulverizer Co., Chicago 50, Ill.

MACHINERY FOR SALE

FOR SALE—ALUMINUM TANKS, 400 GAL. up to 22,000 gal.; Sprout-Waldron 236 cu. ft. Ribbon Mixers. 4'x30', 6'x30' and 6'x 50' Rotary Steam Tube Dryers. 3'x34', 4' 8"x40', 5' 6"x30' Rotary Hot Air Dryers. Hammermills, pulverizers, attrition mills, etc. Perry, 1403 N. 6th St., Philadelphia 22, Pa.

COMPLETE FEED MILL, HAMMERMILL, double roller mill, 1½ ton mixer, M-M Model E Sheller, 100 H.P. Butane M-M Engine, 24-ton scales, electric truck hoist. Will sell equipment and give long lease on building or sell equipment outright. Must sell to care for other business. Rex Keller, Taylorville, Ill.

MACHINERY WANTED

REELS, SCREEN TYPE (TWO) 10 FT. OR longer, also elevator 30 ft. long. Address Ad No. 2475, Feedstuffs, Minneapolis 1, Minn.

WANTED TO BUY — RICHARDSON scales, bag closing machines and other good mill, feed and elevator equipment. J. E. Hagan Mill Machinery, Jefferson City, Mo.

BABY CHICKS FOR SALE

BABY CHICKS—AS HATCHED OR SEXED —Five popular breeds and one hybrid. Quality - Quantity - Service. Wholesale prices. Milford Hatchery, Liberty Road, Randallstown, Md.

Mid-South Grain Shippers Schedule Annual Convention

MEMPHIS — The Mid-South Soybean & Grain Shippers Assn. will hold its annual convention on Aug. 6-7 at the Hotel Peabody in Memphis, states Gus Critz of Clarksdale, Miss., president of the group.

Mr. Critz of the Clarksdale Grain Elevator Co., expects about 200 persons to be on hand, representing an increase of about 50%. This will be the third annual convention.

Wheat will be freely discussed during the convention. This stems from the fact that the South is scheduled for its greatest crop of wheat in history.

Recently members of the association met here for one day to discuss the problem of handling wheat, since most of the elevator men have never handled it before. The association includes elevator operators in southeastern Missouri, Arkansas, western Kentucky, eastern Louisiana and Mississippi.

Most grain exporters are expected to have representatives here for the convention. Paul C. Hughes of the Farmers Soybean Corp., in Blytheville, Ark., is secretary of the group.

James Doherty Retires From Southern Firm

NEWPORT, ARK.—James E. Doherty, manager of the Newport mill of the Southern Cotton Oil Co. since 1919, has retired, the firm announced. He had been with the company since 1915 and came to the Newport mill as cashier in 1916. He returned to Little Rock as cashier in 1917 and was appointed manager here two years later.

Succeeding him as Newport manager is Jerry H. Jeffery, who joined the company in 1939.

ANIMAL NUTRITIONIST

Ph.D. or equivalent experience with sound background in experimental techniques. Position involves setting up field research trials, writing technical articles, presenting scientific information at technical conferences, liaison with feed manufacturers and contact with university research workers. Some traveling involved. Send resume of training and experience in first letter. Address Ad No. 2498, Feedstuffs, Minneapolis 1, Minn.

WANTED
ADVERTISING AND PUBLIC RELATIONS MANAGER

For well established feed and fertilizer manufacturer with principal trade area eastern half of Texas and Louisiana.

Applicants must be 25 to 40 years of age, college trained in journalism or experienced in advertising and public relations. Must be able to edit and layout house organ, brochures, newspaper advertising, and related publications; be able to do radio and television advertising. Need to take photographs with 4x5 Speed Graphic camera, and supervise operation of Multigraph and Addressograph equipment.

Salary commensurate with ability. Apply in writing only to:

Fred Nelson
Personnel Director
TEXAS FARM PRODUCTS COMPANY
Manufacturers of Lone Star Feed & Fertilizer
P. O. Box 31, Nacogdoches, Texas

TRADE-INS
BARGAINS!!

In this great switch-over to dust-free rolled feeds we are called upon to take in other types of grinders, and machinery.

Offered completely rebuilt from our well equipped machine shops at wonderful savings.

2 and 3 pairs high corn rolls. Double stand and single stand mills 6x18", up to 9x36". Molasses Mixers, Batch Mixers, Hammer Mills, Degerminators, etc. Write for list.

H. C. DAVIS & SONS'
Established 1894
Box U 185 Bonner Springs, Kansas

Buy and Sell
through
WANT ADS
—in—
FEEDSTUFFS

G. D. Salisbury Named Bemis Ad Manager

ST. LOUIS—Garth D. Salisbury has been named advertising manager of the Bemis Bro. Bag Co., succeeding A. B. Merriam, who retired Jan. 30. The announcement was made by H. V. Howes, vice president and director of sales.

Mr. Salisbury joined Bemis in 1947 to engage in publicity work. He became associated with the advertising department the following year. After a military leave of absence, 1950-52, he returned to Bemis as an assistant to the advertising manager. He is a 1943 graduate of the School of Journalism, University of Missouri. Upon graduation he was commissioned in the field artillery and served during World War II and the Korean crisis as a member of the staff of the artillery school. Prior to association with Bemis Mr. Salisbury was in the newsroom of radio station KWK in 1946, and became advertising manager of the Messenger Printing and Publishing Co. of Kirkwood in 1947.

Mr. Merriam, who completed 36 years with Bemis, joined the firm in 1921 as a clerk in the Boston office. In 1923 he was assigned to the St. Louis office and to a position in the company's engineering department.

Two years later Mr. Merriam became a member of the Bemis "new purpose" department which was organized to develop new business. Advertising was a function of this new department, and he became the first man in the company's history to devote full time to advertising.

CANADA FEED SHIPMENTS REACH NEW PEAK

WINNIPEG — Value of products shipped by Canada's 1,374 feed mills in 1955 reached a new peak of $215,848,000, slightly larger than the previous year's total of $215,440,000. The Dominion Bureau of Statistics reports the output of concentrated feeds increased to 288,165 tons from 259,284 in 1954, and complete livestock feeds to 1,720,191 tons from 1,704,978. The number of establishments rose to 1,374 from 1,318 in 1954, employees to 7,912 from 7,788, and salaries and wages to $19,358,425 from $18,093,413.

New Firm to Sell Equipment in Europe

CLIFTON, N.J.—Formation of a new European company to manufacture and market Bellows air motors and controlled air power devices as well as Richardson materials handling equipment, control panels, and automatic scales has been announced by the Bellows Co. of Akron, Ohio, and Richardson Scale Co. of Clifton, N.J.

Since 1952, Richardson Scales S. A. has maintained headquarters at Geneva, Switzerland, for the manufacture, sale and service of Richardson automatic weighing and proportioning equipment. The program is now being expanded and includes a change in name to Richardson-Bellows S. A., Geneva, Switzerland, aswell as the manufacture and distribution of Bellows air motors and Bellows controlled air power devices.

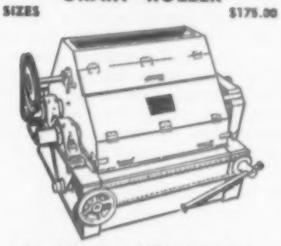
Richardson-Bellows S. A. will take over the manufacture, sale and servicing of Richardson equipment. The new operation will include setting up manufacturing operations in key areas, handling sales promotion and distribution of Bellows designed equipment, and providing engineering services. The program will include all Europe (except Iron Curtain countries) and portions of Africa and the Near East bordering the Mediterranean.

HOLDS GRAND OPENING

GOOSE LAKE, IOWA—The Goose Lake Farm Supply Co., a new firm, held a grand opening here recently. The new feed and machinery center is owned and managed by Bob Kinrade, formerly of Andover.

DOUGLAS SEMINAR—The above photo was snapped at a recent Douglas Chemical Co. grain sanitation seminar in Kansas City. From left to right are Robert H. VanDoren, Douglas president; William C. McCaslin, executive vice president; Barney Mahoney, sales manager; Prof. Donald Wilbur, Kansas State College; Ward A. Graham, technical director, and Donald G. Farmer, director of sales and advertising. (See story, page 108.)

BEST YOU CAN BUY!
KRIMPER-KRACKER®
GRAIN ROLLER
15 SIZES $175.00 UP



Complete Line, Mill and Elevator equipment, new and rebuilt.

DAVIS BUILT HCD SINCE 1894 H. C. DAVIS SONS'
Box F. M. 185, Banner Springs, Kan.

Bryant
SEE OUR AD ON PAGE 74
DOUBLE DUTY
HAMMERMILLS

EMPTY CARS—
FASTER—SAFER

BROOKS CONVERSION KIT
Eliminates the old fashioned, dangerous rope and weight system of operating the tripping mechanism of automatic shovel machines.
BROOKS SHOVEL HOOKS
Save time, money, accidents. Chain can't drop out of hook. Yet hook opens easily with slight hand pressure.
Write for FREE Folder and Prices
The FOSTER & FELTER Company
1908 Grand Avenue, Kansas City 8, Mo.

Standard steel elevators, belt and bucket type, available from stock. Ten Heavy Duty sizes, from 300 to 10,000 Bu./Hr., for continuous service and four Light Duty sizes, from 110 to 750 Bu./Hr., for intermittent service. We also manufacture screw conveyors and hoppers. Send your requirements for complete information.
GODSHALK
Sheet Metal Fabricators
BANGOR, PA.

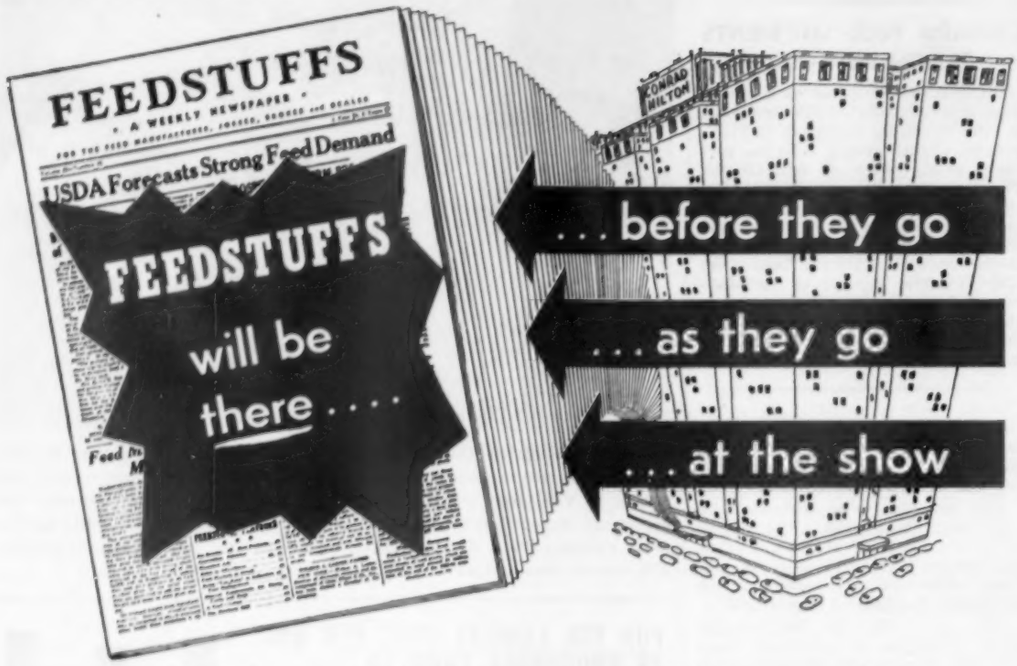
THE BEST FOR THE LEAST!
For the finest, most dependable, year 'round source for High Quality, Low Cost DEHYDRATED CORN COB MEAL in a grade to suit your needs, at stabilized prices, write or phone:
PAXTON PROCESSING CO., INC.
P. O. Box 120 Phone 222 Paxton, Ill.

HIGHER QUALITY HEAT TREATED HAMMERS
Hammers direct from manufacturer of years' experience. Send your specifications or worn hammer. Quantity discounts on hammers and screens. Ask for prices.
SOUTHWEST MILL SUPPLY CO.
P. O. Box 7455 N. Kansas City, Mo.

FOR THE LOWEST COST PER UNIT OF PHOSPHATE TURN TO . . .
COLUMBIA SOLUBLE PHOSPHATE
Write for full information and prices . . .
COLUMBIA PHOSPHATE CO.
1007 Washington Ave.
St. Louis 1, Missouri

BLUE STREAK means More Satisfied Feed Customers for You!
HERE'S HOW
Write Today, for PROFIT FACTS ON TWIN SPIRAL MIXING
BLUE STREAK Prater
1537 S. 55th Court
Chicago 50, Illinois

TWINE - WIRE HEADQUARTERS
J. C. SHUFORD COMPANY
The RELIABLE SOURCE for ALL YOUR NEEDS on:
• EUROPEAN BALER and BINDER TWINE—"Dutch King", "Volto", "Danish King"
• MEXICAN BALER and BINDER TWINE—"Bulldog", "Modelo"
• DOMESTIC BALING WIRE—"Tufsteel"
Volto
DUTCH KING
"If it's tied see Shuford"
216 W. Kinzie Street, CHICAGO 10, ILLINOIS


FEEDSTUFFS
A WEEKLY NEWSPAPER
USDA Forecasts Strong Feed Demand
FEEDSTUFFS will be there . . . .
. . . before they go
. . . as they go
. . . at the show

. . . feed manufacturers will be reading the April 27 issue of

FEEDSTUFFS

it's ideally timed for effective coverage of the

AFMA Convention—Feed Show

COVERAGE where it counts . . . when it counts

Your message in the April 27 issue of Feedstuffs will be on your prospect's desk before he leaves for Chicago. He'll be looking for advance news about the AFMA-Feed Show in his weekly newspaper of the formula feed industry . . . chances are, he'll take the copy with him to read en route. And a "bonus" copy will be delivered to his hotel room in Chicago—now a tradition with Feedstuffs at the AFMA Convention.

A PREVIEW . . . to help you pre-sell

This "multiple exposure" to Feedstuffs — prior to, en route and at the show will give your advertising extra "mileage." Your message can specifically emphasize highlights and locations of exhibits . . . draw attention to your display. Many advertisers have discovered the added impact of this issue and each year schedule extra space and special copy in order to capitalize on this bonus distribution—timed for maximum effectiveness.

"CONVENTION by MAIL" COVERAGE

If prior commitments, budget limitations or other factors make it impossible for you to exhibit at the show, you will want to consider this issue as an effective, low-cost alternative. It's a means of insuring that "You Are There" when your prospects are new-product-minded. And your sales message will be read by Feedstuffs' 16,000 readers, many of whom will be reading about the Convention and Show—but unable to attend.

THE MILLER PUBLISHING CO.
The Businesspaper Family Serving the Fields of Flour, Feed, Grain, Baking and Agricultural Chemicals
THE NORTHWESTERN MILLER • FEEDSTUFFS
THE AMERICAN BAKER • MILLING PRODUCTION
CROPLIFE

FEEDSTUFFS
2501 Wayzata Blvd., Minneapolis 5, Minn.
BRANCH OFFICES: New York, Chicago, Kansas City

RESERVE SPACE NOW!

MAIL THIS ADVERTISING RESERVATION FORM TODAY

FEEDSTUFFS
P.O. Box 67
Minneapolis 1, Minn.

Closing Date, April 15

We want to be represented in the April 27 Issue which is timed for the AFMA Convention-Feed Show.

PLEASE RESERVE ..... Page(s).

Firm .....

Address .....

City ..... Zone..... State.....

Signed .....

Entomologist Conducts Sanitation Seminar

KANSAS CITY—Salesmen and executives of the Douglas Chemical Co. of Kansas City, Mo., became students again as Prof. Donald Wilbur of the Kansas State College department of entomology led the group in a discussion of the habits and behavior of some ten grain destroying insects that annually damage stored wheat, rice and other grains. The Douglas firm manufactures insecticides used in the fumigation and preservation of stored grains.

The meeting kicked off a five day sales session that heralded the introduction of a new Douglas Grain Sanitation Service. The new service will consist of four functions: 1) inspection, 2) detection, 3) evaluation and report, 4) correction, and will be available without charge to commercial grain storage operations immediately.

Prof. Wilbur, whose department is affiliated with the stored grain insect laboratory of the U.S. Department of Agriculture, was guest speaker at the Douglas sales meeting. He explained that grain sanitation is of vital interest to the grain's owner, the miller and the final consumer. Some ten insects, including rice and granary weevils, reduce the bulk and contaminate stored grains in the Midwest region every year. The principles of fumigating grain (and of gas circulation) are well established but not widely disseminated, Prof. Wilbur stated. He combined group discussions with laboratory exercises and demonstrations during the all day meetings.

Douglas officials said that they hope that their new free grain sanitation inspection service will enable the commercial storage interests of the country to better combat insect infestation as well as to help them comply with the stricter standards demanded of commercial storage.

Soybean Nematode Found in Arkansas

WASHINGTON—The Arkansas State Plant Board and the U.S. Department of Agriculture announce that the soybean cyst nematode has been found in one county in northeast Arkansas.

Arkansas thus becomes the fourth state in which this parasite has been discovered since its first appearance in the U.S. 2½ years ago. Two counties in North Carolina and one each in Tennessee and Missouri are also known to be infested.

Identification of the soybean cyst nematode in Arkansas was made in soil samples collected in Mississippi County in the northeast corner of the state.

This finding of the pest was a result of the comprehensive nematode survey now getting under way throughout the Mississippi River Valley. The survey was begun after discovery of the nematode late last year in Lake County, Tenn., and in Pemiscot County, Mo., just across the Mississippi River.

As weather conditions permit, the cooperative State-Federal search for the nematode will be extended in principal soybean-producing states to determine the pest's distribution.

Illinois Soybean Mill Returns to Operation

VURDEN, ILL.—A soybean processing plant which has been closed down four years has resumed operations here. The plant is a part of the Huegly elevator.

The Huegly firm leased the mill and elevators this year from Norman Hulcher after its soybean processing plant at Nashville, Ill., was destroyed by fire.

The mill will produce bean meal and raw soybean oil. It has a capacity of about 1,500 bu. of beans a day.

BREEDING

(Continued from page 8)

the young pigs have additional feeding space in a creep.

9. For hand-feeding in troughs either in dry lot or on pasture, a minimum of 1½ linear feet of feeding space is recommended per sow or gilt and litter provided the young pigs have additional feeding space in a creep.

10. For watering by automatic cup, provide at least one cup, not less than 6 in. in diameter or the equivalent, for each four sows or gilts and their litters. (An automatic waterer with two openings should be considered two cups.) For hand watering in troughs, provide at least 2 linear feet of trough space per sow or gilt and litter. Additional watering space may be required during warm weather.

11. Creep feeding beginning the first week is recommended. The maximum number of pigs per linear foot of feeder space should be five. The edge of the feeder trough should not be more than 4 in. above the ground or floor. A maximum of 40 pigs per creep may be allowed.

Creep feeders should be placed close to a water supply, and near the area where the sow is most of the time. They should be inside, in a well-lighted place in cool weather, and when placed outside in warm weather should be covered to provide shade and protection from rain.

GENERAL MANAGEMENT

12. When possible, the size of litters should be adjusted to the number of functioning teats or nursing ability of the sow. Transferring pigs from sow to sow should be done as early as possible. Three to four days after farrowing is usually the maximum length of time that this can be done, unless the odor of the pigs is masked, when it may be possible to transfer at a later time.

13. For large litters, pigs that are to be transferred, or when injuries to pigs or sows' teats are a problem, clipping needle teeth of pigs at birth or the first day is recommended. Only the tips of these teeth should be clipped.

14. Anemia in pigs farrowed in houses should be prevented beginning the first week by making clean soil or sod available, copperas solution on the sow's udder, individual iron pills, or other methods. This also may be necessary for pigs farrowed on pasture, when weather is unfavorable.

15. The age at which litters and sows may be run together should usually be two weeks, although small groups may be put together as early as one week. The age difference between such litters should not be more than one week in a central farrowing house or two weeks on pasture. The recommended number of sows with litters put together in a group is not more than four in a central farrowing house or six on pasture.

16. On good legume or legume-grass pasture, allow 6 to 8 sows or gilts and their litters per acre.

17. Castration of the pigs should be done during the first 4 weeks. It should not be done during the three weeks following cholera vaccination. Also, pigs weaned at four weeks or earlier should not be castrated within one week of the time of weaning.

18. Pigs should be protected from infection by worms as well as other diseases by good sanitation. Worming before weaning is not recommended and it should not be done within the three weeks after vaccination with living (virulent or modified) hog cholera virus.

19. Cholera, erysipelas, and certain other diseases are prone to affect swine in various parts of the country. These diseases, where they do arise, can limit other efforts toward efficient pork production. Therefore, veterinary medical advice should be sought with regard to proper methods of vaccination and other disease control measures.

The last two recommendations covering sow and litter management deal with weaning practices. They are:

20. Pigs may be successfully weaned at five to six weeks without the use of a sow's milk substitute when proper nutrition and management are practiced.

21. If pigs are to be weaned at five weeks or earlier, the following conditions are recommended:

Age in weeks	5	4	3	2	1
Min. pig wt.-lb.	21	15	12	9	5
Farrowing house temp.—°F	60	65	70	75	75
Min. floor space per pig—sq. ft.	6	5	4	4	4
Max. No. of pigs per linear ft. of feeder space	4	4	4	5	5
Max. No. of pigs per linear ft. of water space	10	10	12	12	12
Max. No. of pigs per group	25	20	10	10	10

For early weaned pigs, housing that is warm, dry, and draft free is required. Supplemental heat such as a heat lamp and special feeders and waterers are recommended.

Linear foot as used here means one foot of feeding or watering space. For example, a 6 ft. self-feeder open on both sides has 12 linear feet of feeder space. The same principle applies to trough space.

AFMA PROGRAM

(Continued from page 1)

many business and civic causes in which he believes.

A second speaker of national distinction is Earl L. Butz, assistant secretary, U.S. Department of Agriculture, Washington. Dr. Butz is familiar to many in the feed industry, for both his work at Purdue University as head of the agricultural economics department, and for his administrative work with USDA. Dr. Butz will discuss "The New Look in Agriculture." Noting the technological revolution which is changing the entire complexion of the feed industry and agriculture, Dr. Butz' economic analysis of problems and trends is expected to pace convention discussions of "The new look."

Prior to his work at Purdue, Dr. Butz was research economist at the Brookings Institute and the Federal Land Bank at Louisville. He has served as a top officer of the American Farm Economic Assn., the American Association of Farm Managers and Rural Appraisers, the Academy of Political Science, the Indiana Academy of Social Sciences and Alpha Gamma Rho. He is a member of five other scientific and honorary societies and an author of a book and many other publications on agricultural economics.

Feed Control Summary

The president of the American Association of Feed Control Officials, John W. Kuzmeski, will precede Dr. Butz with a talk entitled, "The New Look in Feed Control." In a brief resume of feed control laws from 1897 to the present, Mr. Kuzmeski will outline the needed change in control officials' concept of what constitutes sound feed laws and regulations to keep abreast of the present and foreseeable future developments in feed manufacture. A graduate in chemistry at Massachusetts Agricultural College, a junior chemist in the Massachusetts Feed and Fertilizer Control Service, and a plant chemist with a large fertilizer company, Mr. Kuzmeski has worked in feed control for 28 years.

The chairman of the AFMA board of directors, Oscar Straube, president, Pay Way Feed Mills, Kansas City, will open the convention with a discussion of the "New Look in Association Operations." Rated as one of the feed industry's most inspiring and thought-provoking speakers, Mr. Straube has been active in state, regional and national feed association programs for the past 35 years.

His feed industry experience traces back to 1918 at which time he operated a retail feed business in Arkansas. In 1945 he became president of his own company. For more than 20 years, he has contributed to the activities of American Feed Manufacturers Assn., serving on the board of directors, its executive committee, the budget committee and the feed merchandising council. He is a director of a bank, the Kansas City Philharmonic Assn., and the Kansas City Conservatory of Music, and a past president of the Kansas City Club.

Research Awards

Awards will be presented by Dr. R. R. Spitzer, chairman of the AFMA Nutrition Council, to the three outstanding research scientists for 1956. The recipients are: Dr. R. W. Luecke, Michigan State University, for his animal nutrition research; Dr. J. C. Shaw, University of Maryland, dairy nutrition research; and Dr. S. J. Slinger, Ontario Agricultural College, poultry nutrition research.

The National Feed Industry show will be open on the afternoon of May 2 and at 5:30 p.m., the traditional Sunshine Hour will be held, a reception for all registered delegates and their wives.

The May 3 program will start with a "spectacular" production by the association and details of this presentation have been withheld for the present, according to Mr. Glennon's office.

The remainder of the May 2 morning program will be devoted to the "new look in sales." Verne R. Martin, sales consultant from Newton, Iowa and former general sales manager of the Maytag Co. will discuss "Men Make the Difference." Selection of sales personnel will be his theme at the AFMA convention. Methods used in recruiting, interviewing, employing and developing sales personnel are his special field.

Mr. Martin engaged in the banking business at an early age. Before he was 30 he had been a state bank examiner and deputy superintendent of banking in Iowa. For the next 30 years he worked for the Maytag Co. as a house-to-house salesman, regional manager and branch manager, and for the last 10 years as general sales manager. During the latter period, the sales organization increased nearly 2½ times, and the sales volume, five times.

The convention will climax with a 1½-hour concluding sales clinic conducted by Howard P. Mold, manager, sales personnel department, Minneapolis-Honeywell Regulator Co., Minneapolis. Former director of training for that firm and director of training and director of work simplification for the Mead Corp., Chilicothe, Ohio, Mr. Mold is considered to be one of the nation's foremost experts on sales management and training. A contributing author to "Development of Executive Talent American Management Association" and an author of numerous articles and booklets, a lecturer at the University of Minnesota extension school, on the faculty of the Georgia Institute of Technology, Public Utilities Executive four-week school and the California Institute of Technology Executive Development program, Mr. Mold also acts as an instructor of work simplification at the University of Minnesota extension school industrial engineering department and the Rochester evening community college. He is a member of five professional societies and secretary of the Minnesota state board of examiners of psychologists. His training includes degrees in chemistry, history and industrial psychology. His talks and clinics are entertaining and highly fascinating, according to feed industry men who have attended his practical, participation workshops.

Feed Industry Show

The 50th National Feed Industry Show to be held in conjunction with the AFMA convention will be open on the afternoons of May 1-3. Registration for the AFMA convention will include free admittance to the Industry Show. Everyone who registers will be eligible for attendance awards. A $500 first prize and a $300 second prize will be presented on May 3 at the AFMA booth in the show.

Closed meetings of the AFMA board of directors, Nutrition Council, executive traffic committee and the executive committee of American Pet Food Manufacturers will precede the convention speaking program and will be held on May 1.

An open meeting of the AFMA committee of purchasing agents is scheduled. All interested delegates are invited to attend.

The open forum on feed control problems with members of the American Association of Feed Control Officials is scheduled for Tuesday, April 30 at the Congress Hotel. AAFCO is holding its spring meeting at the Congress, April 29-30 and May 1.

Dairy Budget Increased

SALEM, ORE.—A $425,171 budget for the Oregon Dairy Commission was passed by the Oregon House of Representatives recently. The budget was an increase of $227,141—114% over the current biennium. House members approved the measure after assurances milk prices would not be affected. Dairymen will pay the increase through a tax of half a cent a pound of butterfat.

DROUTH AID

(Continued from page 1)

which fixed March 15, 1957, as the cut-off date. In fact, all drouth counties have a termination date on their participation in the program. The USDA theory is that it will provide emergency relief for stipulated periods and prior to the specified termination date, the field staff of ASC committees will review the local situation and make recommendations for extension or ending of existing programs.

It is also learned that by the end of March, it is likely that additional west Texas counties will be eliminated from drouth relief participation, as well as western counties in Oklahoma on the same date.

Staff of Experts

The new "fire brigade" of CSS will be outside the grain division of CSS and outside the Farmers Home Administration. It is planned to have a staff of experts who will survey drouth area programs independently from other USDA operations, including the ASC field representatives, to determine the urgency of need. Next they will also make recommendations to CSS as to the amount of aid, appraised in terms of dollars, of emergency feed requirements for any fixed period approved.

This is seen as a distinct improvement in administrative technique, wherein it places full responsibility at one trained staff source, rather than in the varying measures of evidence which have heretofore been accumulated through county ASC committee sources.

Instead of the liberal issuance of drouth emergency farmer purchase orders, which has occurred in the present program, the trained expert staff will assess such emergency requirements and recommend to the home office the exact dollar and cents requirements of individual farmers.

While this new unit—this "fire brigade"—will be an independent unit within CSS, its recommendations through the top level of CSS will have to clear finally through Kenneth Scott of the secretary's office, who acts virtually in the capacity of an assistant secretary, without the title.

Formal news of this change may be expected shortly from USDA.

THE FEED MARKETS

★ ★ ★ ★

Demand — Supply — Trends — Prices

Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bagged, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

A AND D FEEDING OIL

Chicago: Demand slow; supply scarce; straight A feeding oil, with 10,000 units vitamin A per gram 10@13¢ a million units of vitamin A, l.c.l., packed in 55 gal. drums, f.o.b. Chicago, drums included.

Seattle: Demand slow; supply good; trend unchanged; 300 D, 2,250 A 22¢ lb., 300 D, 1,500 A 19¢ lb., 300 D, 750 A 17¢ lb., all ex-warehouse, drums included.

Boston: Demand fair; supply adequate; 600 D, 1,500 A 16¢ lb.; 300 D, 2,250 A 17¢; 300 D, 1,500 A 18¢; 300 D, 750 A 14¢.

New York: Trend steady; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU 750 A 13½@15½¢, 1,500 A 15½@17¢, 2,250 A 17½@20¢, 3,000 A 19½@21¢; 600 ICU, 1,500 A 16@18¢, 2,250 A 18@19½¢, 3,000 A 20@21¾¢; f.o.b. Massachusetts, New York or Pennsylvania.

Minneapolis: 10,000 A 28¢ lb.; 300 D, 2,250 A 22½¢ lb.; 300 D, 1,500 A 20½¢ lb.; 300 D, 750 A 18½¢.

ALFALFA MEAL

Memphis: Demand poor; trend lower; supply ample; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $74.50.

Ft. Worth: Demand dull; supply sufficient; California dehydrated, 17%, 100,000 A $89.80, delivered TCP by rail; Kansas dehydrated, 17%, 100,000 A $75.45, nominal, delivered Ft. Worth; suncured: South Dakota and Nebraska, No. 1, 13% protein, ¼-in. grind, rail shipment $47@47.50, prompt, delivered Ft. Worth.

Philadelphia: Demand dull; supply light; 17% dehydrated $80.50.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $76.55@78.55; 17% dehydrated, no A $70.55@72.55; 13% fine suncured $56.55@61.55.

Minneapolis: Market unchanged, with 17% dehydrated, 100,000 units of vitamin A guaranteed at $70@72; granules and oil treated $69@71, bulk; 18% dehydrated, 135,000 units of vitamin A $75, granules and oil treated $74 bulk.

Omaha: Demand lagging; supply limited; 17% dehydrated, 100,000 A, papers or burlap $68; 17% dehydrated, non-A, papers or burlap $68.

St. Louis: Demand slow; trend lower; supply ample; dehydrated 17%, 100,000 A $71.75 ton; suncured No. 1 fine ground 12% $50.50 ton, f.o.b. St. Louis.

Buffalo: Demand poor; trend steady; supply fair; $82.50, sacked, Boston.

Boston: Demand fair; supply ample; dehydrated, 17% $82@83.75; suncured, 12% $64@66.

Chicago: Demand slow; supply tight; 17% dehydrated, with 100,000 units vitamin A guaranteed $72@72.50; 17% with no A guaranteed $66.50@68; 13% suncured $52@52.50.

Seattle: Demand slow; trend easy; supply ample; 15% protein suncured $48 ton, 136,000 A unit dehydrated $65 ton, both delivered, carlots.

New Orleans: Demand fair; trend firm; supply adequate; suncured fine $56@56.50; dehydrated 17% vitamin A guaranteed $76@77; pellets $76@77; 15% $68@69.

Portland: Demand easier; trend lower; supply ample; $45, delivered Portland for 15% suncured; $69, delivered Portland, for dehydrated.

Kansas City: Fair to slow interest from feed mixers; offerings very limited and market generally steady compared with week ago; new crop outlook not bright due to drouth in many important areas; dehydrated alfalfa meal with 17% protein, 100,000 units of vitamin A guaranteed on arrival $66@67, with only a few cars available at the lower end of the range; 15% protein, 125,000 units A meal $70, sacked; 17% protein, 100,000 A, pellets $62@63, bulk; non-guaranteed A meal $58@62, sacked; suncured demand poor and prices unchanged; No. 1 fine ground $46@47, No. 1 ¼-in. $39.50@42, No. 2 ¼-in. $36@38.

ANIMAL FATS (STABILIZED)

Chicago: Demand good; supply fair; bleachable fancy tallow, tank truck or carlots 7¼¢ lb.; yellow grease 6¼¢.

Kansas City: Demand fair; trend firmer; supply adequate; prime tallow 7¼¢ lb.; bleachable fancy yellow 7¼¢.

Louisville: Demand fair; trend steady; supply ample; bleachable white 7¾¢ lb.; white tallow 7¼¢; yellow grease 6¼¢.

Ft. Worth: Demand steady; supply sufficient; prime tallow, tank cars 7¾¢ lb.; drums 8¼¢, f.o.b. north Texas packing plants, with returnable drums.

San Francisco: Demand fair; supply ample; bleachable fancy 7¾¢ lb.; yellow grease 6¾¢ lb.

BARLEY FEED

Milwaukee: Demand good; supply fair; needles $54@$1.30; ground $27.

Seattle: Demand and trend steady; supply good; whole barley $60 ton, ground barley $60 ton, rolled barley $61 ton, all ex-warehouse, l.c.l., sacked.

Philadelphia: Demand dull; supply fair; pulverized $50.

San Francisco: Demand fair; supply ample; rolled $70, ground $69.

Boston: Demand slow; supply light; pulverized $50.

New Orleans: Demand good; trend steady; supply ample; ground $73@78; pulverized $61@63.

Chicago: Demand dull; supply light; $43.

Baltimore: Demand dull; supply light; $53.50.

Portland: Demand firm; trend lower; supply ample; rolled $62, ground $61.

Ogden: Supply normal; rolled $56@60; whole barley $48@53.

BENTONITE (SODIUM)

Chicago: Demand very good; supply adequate; f.o.b. Wyoming and South Dakota shipping points: granular, 20 mesh $15.50; fine granular, 30 to 100 mesh $12.75; powder, 200 mesh $12.50; f.o.b. Belle Fourche, S.D., minimum 30 ton carlots; 20 granular $12.50 net; 200 mesh fine $12.25 net.

BLOOD FLOUR

Louisville: Demand good; trend steady; supply normal; $90@95 ton.

BLOOD MEAL

Ogden: Supply normal; $97.50 ton in 100-lb. bags, f.o.b. Ogden.

Portland: Demand steady; supply ample; trend unchanged; $100.

Louisville: Demand good; trend firm; supply normal; $90@95 ton.

New Orleans: Demand fair; trend steady; supply ample; $95@97.50.

Chicago: Demand improved; supply fair; $120 ton, guaranteed 80% protein.

Seattle: Demand slow; trend easy; supply good; $80 ton, ex-warehouse, truck lots.

Cincinnati: Demand fair; trend steady; supply tight; $121.

San Francisco: Demand slow; supply ample; $5.50 a unit of ammonia.

BONE MEAL (STEAMED)

Cincinnati: Demand good; trend steady; supply adequate; $80 ton, sacked, f.o.b. Cincinnati.

Seattle: Demand good; trend steady; supply sufficient; $90 ton, ex-warehouse, truck lots.

Omaha: Demand strong; supply very limited; $85.

Louisville: Demand slow; trend easy; supply normal; $75@80 ton.

St. Louis: Demand fair; trend steady; supply adequate; $95 ton, sacked.

Buffalo: Demand good; trend steady; supply limited; $87.50 ton, sacked.

San Francisco: Demand good; supply ample; $82.50.

Boston: Demand and supply steady; $85.

Portland: Demand good; supply ample; trend unchanged; $88.50.

Ft. Worth: Demand fair; supply adequate; $85, sacked, f.o.b. Ft. Worth, local manufacture.

New Orleans: Demand slow; trend steady; supply adequate; $82.50@85.

Chicago: Demand improved; supply fair; $70@80.

BREWERS DRIED GRAINS

Ft. Worth: Demand slow; offerings moderate; 26% $58@59, delivered Ft. Worth.

New Orleans: Demand slow; trend steady; supply light; $58@60.

Milwaukee: Demand fair; supply good; $48.50, Milwaukee.

Louisville: Demand slow; trend easy; supply ample; $50 ton.

Buffalo: Demand poor; trend steady to lower; supply good; $48, bulk, Boston.

St. Louis: Demand fair; trend higher; supply ample; $43 ton bulk, $49 ton sacked.

Chicago: Demand slow; supply plentiful; 26% $47@47.50.

Boston: Demand slow; supply plentiful; 26% $55.75@57; 22%, Canadian $54.50.

Cincinnati: Demand poor; trend steady to easy; supply adequate; $53@55.

San Francisco: Demand fair; supply ample; $54.

Philadelphia: Demand dull; supply light; $60.

BREWERS DRIED YEAST

San Francisco: Demand fair; supply good; 10¢ lb.

Boston: Demand good; supply steady; 11¢ lb.

Omaha: Demand good; supply adequate; 11¢ lb.

Buffalo: Demand fair; trend steady; supply ample; $9.65 cwt.

Louisville: Demand slow; trend steady; supply good; 10¢ lb.

Pittsburgh: Carlots 10¢ lb.; 5-ton lots 11¢; ton lots 11½¢.

New Orleans: Carlots 10¢ lb.; 5-ton lots 11¢; ton lots 11½¢.

Cincinnati: Carlots 10¢ lb.; 5-ton lots 11¢; ton lots 11½¢.

New York: Carlots 9½¢ lb.; 10-ton lots 10¢ lb.; 5-ton lots 10½¢ lb.; ton lots 11¢ lb., f.o.b. New Jersey.

St. Louis: Demand fair; supply adequate; 10¢ lb. in carlots; 10¼¢ lb. in 5-ton lots; 11¢ lb. in ton lots; 11½@13¢ lb. in less than ton lots.

Milwaukee: Demand good; supply limited; 10½@11½¢ lb. in carlots; 10½@13½¢ lb., l.c.l.

Portland: Demand good; supply ample; trend unchanged; $8.

Chicago: Demand good; supply limited; 10@11½¢ lb., in carlots; 10½@13½¢, l.c.l.

BUTTERMILK-CONDENSED

Ogden: Supply average; $4.90, 100-lb. drum.

Portland: Demand good; supply ample; trend unchanged; $4.75.

Chicago: Demand fair; supply adequate; $3.25@3.50 cwt. in carlots.

San Francisco: Demand fair; supply good; $5 cwt.

Philadelphia: Demand dull; supply fair; $4.25, barrels.

New Orleans: Demand fair; trend steady; supply light; $4.75@4.90 cwt.

Boston: Demand fair; supply light; $3.75 cwt.

Louisville: Demand dull; trend firm; supply normal; $4.25 cwt.

CALCITE CRYSTALS AND FLOUR

(All prices net, including freight and tax)

New York: Crystals $13.97, flour $9.73.

Buffalo: Crystals $14.74, flour $10.47.

Toledo: Crystals $16.39, flour $12.14.

Boston: Crystals $15.16, flour $10.93.

Limecrest, N.J.: Crystals $9.75, flour $5.50.

CALCIUM CARBONATE

Seattle: Demand steady; supply good; trend unchanged; $14 ton, ex-warehouse, truck lots.

Cincinnati: Demand fair; trend steady; supply adequate; $8@9.

Minneapolis: Plain $11; iodized (½ lb. KI per ton) $14.45; iodized manganesed $15.90, in 100-lb. bags.

Chicago: Plain $8.90 ton in 100-lb. bags, delivered.

CHARCOAL

San Francisco: Demand steady; supply ample; $54.50.

Boston: Demand and supply light; $95.

Chicago: Demand quiet; supply adequate; poultry charcoal $102 ton in 50-lb. multiwalls.

COCONUT MEAL

Portland: Demand poor; supply ample; trend unchanged; $65.

Seattle: Demand fair; trend easier; supply sufficient; $68 ton, ex-dock, 30-day arrival from Philippines.

San Francisco: Demand fair; supply ample; solvent $60; expeller $62.

COD LIVER OIL (FORTIFIED)

Boston: Demand slow; supply ample; 600 D, 2,250 A 21¢ lb.; 300 D, 2,250 A 20¢; 300 D, 1,500 A 17½¢.

New York: Trend steady; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 14½@15½¢, 1,500 A 16½@19¢, 2,250 A 18½@21¢, 3,000 A 21½@23¢; 600 ICU, 1,500 A 18@19½¢, 2,250 A 20@22¢, 3,000 A 22@23¢; f.o.b. Massachusetts, New York or Pennsylvania.

CONDENSED FISH SOLUBLES

New Orleans: Demand good; trend steady; supply very light; $90@92, f.o.b. Gulf.

New York: Demand good; trend steady; supply tight; 4½@4¾¢ lb., f.o.b. eastern shore.

Boston: Demand active; supply very tight; 4¢ lb., nominal.

CORN GERM MEAL

St. Louis: Demand slow; trend steady; supply adequate; $45 ton bulk, $50 ton in burlap sacks, St. Louis.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are sacked basis, bulk basis $5 less)

Minneapolis: Feed $53.39, meal $77.39.

Atlanta: Feed $61.21, meal $85.21.

Birmingham: Feed $59.26, meal $83.36.

Boston: Feed $58.12, meal $82.12.

Chicago: Feed $47, meal $71.

Cleveland: Feed $54.42, meal $78.42.

Denver: Feed $56.89, meal $80.89.

Ft. Worth: Feed $55.34, meal $79.34.

Indianapolis: Feed $51.94, meal $75.94.

Kansas City: Feed $47, meal $71.

Louisville: Feed $53.80, meal $77.80.

New Orleans: Feed $56.78, meal $80.78.

New York: Feed $57.71, meal $81.71.

Norfolk: Feed $57.09, meal $81.09.

Philadelphia: Feed $57.30, meal $81.30.

Pittsburgh: Feed $55.34, meal $79.34.

St. Louis: Feed $47, meal $71.

CORN OIL MEAL

Cincinnati: Demand poor; trend steady; supply adequate; $52.50@55.75.

Louisville: Demand dull; trend firm; supply normal; $55.67 ton.

COTTONSEED OIL MEAL

Seattle: Demand fair; trend unchanged; supply good; $75 ton, delivered truck lots, nearby shipment.

Philadelphia: Demand dull; supply fair; $72.

New Orleans: Demand fair; trend steady; supply adequate; 41% old process $75@75.50.

Memphis: Demand fair; trend dull; supply light; prime 41% protein, old process $54.50, sacked; new process, 41% solvent $54.50, sacked.

San Francisco: Demand good; supply ample; expeller $68; solvent $66.50.

Cincinnati: Demand fair; trend steady; supply adequate; solvent $67@67.75; old process $67.

Boston: Demand slow; supply good; $75.50@76.

Portland: Demand steady; supply ample; trend unchanged; $75@76.

Ogden: Supply normal; 41% $70@75.

Kansas City: Demand very slow; trend steady; supply ample; price much higher than soybean meal in this area; $55@55.50, sacked, Memphis, for old process; $55.50 for solvent; many solvent mills working on soybeans now.

Ft. Worth: Demand slack; supply sufficient; carlots, 41% old process $60@63, f.o.b. central Texas mills, depending on location; solvent 41% low gossypol $61@63, delivered Ft. Worth; pellets $3 additional; cottonseed hulls, nominal $27@28, prompt, delivered Ft. Worth.

Wichita: Demand slow; supply sufficient; 41% old process $66; solvent $65@66.

Chicago: Demand slow; supply plentiful; hydraulic $67.50@68; solvent $67@67.50.

Buffalo: Demand poor; trend steady; supply fair; $74.50, sacked, Boston.

Atlanta: Demand slow; trend weak; supply ample; 41% $83, sacked, immediate.

Louisville: Demand slow; trend steady; supply ample; old process $64.75 ton; new process not quoted in this market.

Omaha: Demand fair; supply ample; 41% solvent $70.50, pellets $73.

D ACTIVATED ANIMAL STEROL, POWDERED

Kansas City: Demand normal; supply adequate; trend steady; 10½@11¢ lb.

Cincinnati: Demand fair; trend steady; supply ample; 1,500 ICU 11@13¢; 3,000 ICU 18¢, warehouse.

New York: Trend steady; price per lb. in 50- and 100-lb. bags or 100-lb. drums: 1,500 ICU 8@13¢ bagged, 13@13¢ drums; 3,000 ICU 13@17¢ bagged, 17@18¢ drums; f.o.b. or delivered basis Pennsylvania, Delaware or New York.

D ACTIVATED PLANT STEROL, POWDERED

Chicago: Demand good; supply adequate; 4,000,000 U.S.P. units per lb., 18¢ lb.; ton lots and less 17¢; 13,000,000 units per lb., 5 tons to a carload 28¢ lb.; ton lots and less 30¢ lb.

DEFLUORINATED PHOSPHATE

Tupelo, Miss.: $51.

Houston: 19% $69.50.

Wales, Tenn.: $67.10.

Coronet, Fla.: Minimum phosphorus 17%, minimum calcium 34%, maximum fluorine .17% $58 net ton, f.o.b. Coronet in 100-lb. multiwall bags, $55 in bulk.

DICALCIUM PHOSPHATE

Texas City, Texas: 18% minimum phosphorus, 23% minimum calcium, .11% maximum fluorine $77.40 net ton, f.o.b. Texas City in 100-lb. multiwall bags; $74.40 net ton, f.o.b. in bulk boxcars or hoppers; freight equalized with nearest producing point.

Minneapolis: 18.5% phosphorus, 24% calcium granular or fine ground $89.55 ton, delivered; $3 ton less in bulk.

Trenton, Mich.: Minimum phosphorus 21%, maximum fluorine .01% guaranteed $90.30, f.o.b. Trenton, in 100-lb. multiwall bags; minimum phosphorus 18½%, maximum fluorine .01% guaranteed $79.55, f.o.b. Trenton in 100-lb. multiwall bags.

Columbia, Tenn.: Minimum phosphorus 18½%, minimum 25% calcium, maximum .01% fluorine guaranteed $79.55 ton, f.o.b. Columbia, in 100-lb. multiwall bags. Freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Chicago: Demand fair; supplies adequate; stock food grade, 18.5% phosphorus, 20,000 lb. or more $79.55 net ton in 100-lb. papers, basis Chicago Heights, Ill., or Nashville, Tenn., less than 20,000 lb. $89.55; 21% phosphorus, 20,000 lb. or more $90.30, basis Chicago Heights and Nashville, less than 20,000 lb. $100.30; bulk boxcars or hoppers, $3 net ton less than bagged material.

Bonnie, Fla.: Demand improving; supply adequate; minimum phosphorus 18½%, granular $79.55; freight equalized with closest producing point, carload basis.

Cincinnati: 18% phosphorus $88@89.

Portland: Demand steady; supply ample; trend unchanged; $97.

DISTILLERS DRIED GRAINS

Philadelphia: Demand dull; supply light; $69.

San Francisco: Demand fair; supply ample; solubles $85.

Louisville: Demand fair; trend steady; supply ample; bourbon grains, light or dark $61 ton, solubles $80.

Buffalo: Demand and supply fair; trend steady; $65, bulk, Boston.

Cincinnati: Demand poor; trend steady to easy; supply adequate; light $62.50@65; dark $68.

New Orleans: Demand poor; trend steady; supply light; $61@65.

Boston: Demand active; supply tight; light and dark $68.

DRIED BEET PULP

Seattle: Demand fair; trend steady; supply good; $52 ton, delivered, carlots.

San Francisco: Demand good; supply fair; $54.19.

New Orleans: Demand fair; trend steady; supply adequate; $60@61.

Cincinnati: Demand fair; trend steady; supply adequate; $62@65.

Chicago: Plain or molasses pulp $60, papers.

Boston: Demand slow; supply adequate; $69@71.

Buffalo: Demand and supply poor; trend steady; $70, sacked, Boston.

Atlanta: Demand slow; trend steady; supply limited; $76.25, sacked, immediate.

Ft. Worth: Demand slow; supply moderate; carlots, 50-lb. papers $65@66, delivered Ft. Worth.

Milwaukee: Demand and supply fair; molasses $59.25, plain $59.25.

Ogden: Supply average; $45@50 ton.

DRIED BUTTERMILK

Ogden: Supply average; $7.25, 100-lb. bag.

Wichita: Demand slow; supply adequate; $8 cwt.

Chicago: Demand light; supply fairly good; medium acid $8@8.25, sweet cream $8.50@8.75 cwt., in carlots.

San Francisco: Demand fair; supply ample; 11¢ lb.

Louisville: Demand slow; trend easy; supply normal; 9¢ lb.

Buffalo: Demand fair; trend steady; supply ample; $8.65 cwt.

Minneapolis: Market unchanged at $7.75@8.50 cwt.

Milwaukee: Demand and supply fair; $10.

New Orleans: Demand slow; trend steady; supply adequate; $9.50@10 cwt.

Boston: Demand and supply nil; withdrawn.

DRIED CITRUS PULP

San Francisco: Demand good; supply fair; meal $58.

Atlanta: Demand fair for pulp, slow for meal; supplies ample; trend steady on pulp, weak on meal; pulp $43, meal $36.50.

Buffalo: Demand fair; trend steady; supply adequate; $34, sacked, f.o.b. Florida points.

New Orleans: Demand fair; trend steady; supply adequate; $35@38, Florida origin.

Boston: Demand poor; supply adequate; $33.50, Florida points.

DRIED SKIM MILK

Philadelphia: Demand dull; supply fair; $12.

Cincinnati: Demand fair; trend steady; supply adequate; 11¼@12¢.

Milwaukee: Demand and supply fair; $11.

New Orleans: Demand dull; trend steady; supply adequate; 12@12½¢ lb.

Boston: Demand slow; supply fair; l.c.l. 12@12¼¢ lb.

Buffalo: Demand fair; trend steady; supply ample; $10.65 cwt.

Louisville: Demand slow; trend easy; supply normal; 11@11½¢ lb.

DRIED WHEY .....

Louisville: Demand fair; trend easy; supply normal; 8¢ lb.

Buffalo: Demand poor; trend steady; supply fair; $6 cwt., delivered.

San Francisco: Demand and supply fair; 13½¢ lb.

Minneapolis: Market unchanged at $10.50@11 cwt.

Ogden: Supply normal; $15.15, 100-lb. drum.

Portland: Demand slow; supply ample; trend unchanged; $12.50.

Chicago: Demand fair; supply adequate; $10@10.50 cwt. in carlots.

DRIED WHEY

Kansas City: Demand normal; trend firm; supply adequate; straight grade $6 cwt.; partially delactosed $6.40 cwt., sacked.

Portland: Demand steady; trend higher; supply ample; $13.20.

Ft. Worth: Demand fair; supply adequate; carlots, standard $6.25 cwt., sacked, delivered Ft. Worth or any Texas point or in ton lots, f.o.b. warehouse, Ft. Worth.

Ogden: Supply average; $6.90, 100-lb. bag.

Chicago: Demand fair to good; supply light; $5.35@5.45 cwt. in carlots.

Seattle: Demand slow; trend steady; supply good; $6.50 cwt., ex-warehouse, l.c.l.

Philadelphia: Demand dull; supply fair; $6 cwt.

San Francisco: Demand steady; supply good; $5.50 cwt.

Cincinnati: Demand fair; trend steady; supply adequate; $5.25 cwt.

New Orleans: Demand fair; trend steady; supply adequate; $6@6.25 cwt.

Boston: Demand slow; supply ample; $5.75 cwt.

Minneapolis: Market firm at $5.25@5.50 cwt.

FEATHER MEAL (HYDROLYZED)

Boston: Demand very good; supply tight; $88, f.o.b. shipping points for minimum 85% crude protein, 70% digestible.

FISH MEAL

Seattle: Demand slower; trend steady; supply good; $3.30 a unit protein, delivered carlots, Canadian production.

New Orleans: Demand good; trend steady; supply adequate; menhaden 60% $141@142, burlaps; sardine Angola 60% $140@142, burlaps.

Cincinnati: Demand fair; trend steady; supply adequate; $150.50@160.

San Francisco: Demand fair; supply ample; Peruvian $2.17½ a unit of protein; Canadian $2.50 a unit of protein.

Ogden: Supply normal; $2.20 a unit, f.o.b. Coast; 65% $171@173.

Portland: Demand firm; trend lower; supply ample; $2.20, f.o.b. Vancouver.

Milwaukee: Demand fair; supply good; 60% $162, Milwaukee.

Buffalo: Demand good; trend steady; supply limited; 60% protein menhaden $146 ton, bulk; $150, sacked.

Atlanta: Demand slow; trend steady; supply limited; 60% $152, sacked, immediate.

Louisville: Demand slow; trend steady; supply normal; $155@160 ton.

Minneapolis: Market easier on 60% and steady on 70%. Quotations: 70% herring meal $2.05 a unit of protein, West Coast; 60% $150@152, delivered, in truck lots.

Ft. Worth: Demand fair; limited offerings Canadian herring, sufficient imported fish meal for immediate delivery; Canadian herring $2.25, nominal, a unit protein, f.o.b. N.W. Canada; 60% imported fish meal, immediate delivery $138, f.o.b. Houston.

Chicago: Demand fair to slow; supply adequate; eastern menhaden fish meal, 60% protein $138@140; western blended, 60% protein $135; Gulf, no offerings; Northwest herring-salmon blend $135; Canadian herring, 73% protein $2.10@2.20 a unit of protein, all f.o.b. producing points; 60% blended $154.

Boston: Demand active; supply improved; $140.

HAY

New Orleans: Demand fair; trend steady; supply adequate; timothy $45@47, timothy and clover $57@59, Kansas prairie $47@49, No. 1 alfalfa $67@69.

Philadelphia: Demand dull; supply fair; $28@29.

Cincinnati: Demand fair; trend steady; supply adequate; No. 1 timothy $22.50; No. 1 red clover $24; No. 1 second cutting green alfalfa $26; No. 1 red clover, mixed $26; wheat or oats straw $24.

Seattle: Demand fair; trend steady; supply good; $36 ton, delivered, truck lots, U.S. No. 2 green.

Boston: Demand good; supply fair; No. 2 timothy $36@38.

Louisville: Demand dull; trend weak; supply good; No. 1 hay, any variety $33@35 ton, No. 2 $21@23 ton; straw $18@20 ton.

St. Louis: Demand fair; trend steady; supply adequate; No. 1 alfalfa, milling quality $15@20 ton; No. 1 feed quality $25@30 ton; No. 1 prairie (Kansas) $37.50@40 ton; No. 1 timothy and clover mixed (Missouri and Illinois) $25@26 ton; No. 1 clover $22@25 ton.

Portland: Demand poor; supply ample; trend unchanged; $32@33, but individual users report buying as low as $30 ton, delivered.

Ft. Worth: Demand very slow; offerings heavy; rains have improved pastures and small grain pasturage; carlots, baled, No. 1 alfalfa, nominal $42@43, No. 2 $41@42; prairie No. 2 $36@38, delivered TCP on 50% drouth freight rate.

Wichita: Demand slow; supply very light; prairie $32, alfalfa $38@40.

Ogden: Supply normal; $1.10 bale; $20@23 ton in the barn.

HOMINY FEED

Kansas City: Demand fair; trend easier; supply ample due to large production resulting from government corn meal purchases for relief; white or yellow $39@39.50, sacked; bulk $3 less.

Chicago: Demand slow; supply plentiful; $45.50@46.

New Orleans: Demand slow; supply adequate; trend stronger; $49.80@54.50.

Milwaukee: Demand good; supply fair; $48.50, sacked, Milwaukee.

Buffalo: Demand fair; trend steady to lower; supply good; $53, bulk, Boston.

Louisville: Demand slow; trend steady; supply normal; $48.80 ton.

Memphis: Demand nil; trend unchanged; supply ample; white $50.50, yellow $50.50.

Cincinnati: Demand fair; trend steady; supply adequate; $48@49.

Seattle: Demand slack; trend steady; supply good; $60 ton, delivered, carlots, sacked.

Boston: Demand slow; supply adequate; Canadian spot $37; domestic $54.50, bulk, for April shipment.

LINSEED OIL MEAL

San Francisco: Demand and supply fair; $81.

Philadelphia: Demand and supply fair; $74.60.

New Orleans: Demand slow; trend higher; supply limited; 32% or higher $77@77.50.

Seattle: Demand good; trend firm; supply tight; $86 ton, delivered, carlots, solvent process.

Milwaukee: Demand good; supply fair; old process $66.25; new process $65.25.

Cincinnati: Demand fair; trend steady; supply adequate; new process $71; old process $72.50.

Louisville: Demand dull; trend strong; supply ample; old process $73.10 ton; new process $71.10 ton.

Omaha: Demand fair; supply ample; 32% expeller $71, pellets $73.50; 34% solvent $70, pellets $72.50.

Minneapolis: Market somewhat stronger, with no new mill offerings and resellers dominating the market. Quotations: $55@55.50, bulk, Minneapolis; 22% flaxseed screenings oil feed $30, bulk, Minneapolis.

Boston: Demand slow; supply light; 34% $75; small lots $79.

Kansas City: Demand not active; trend firm to higher; supply limited with several mills not producing now; $55@55.50, bulk, Minneapolis.

Portland: Demand strong; trend higher; supply tight; $86.

Wichita: Demand fair; supply sufficient; 34% $69.

Ft. Worth: Demand slow; supply scarce for March delivery; carlots, 34% or better March-April $76.39, delivered Ft. Worth; pellets $2.50 premium.

Chicago: Demand fair; supply tight; solvent $67; expeller $68@68.50.

MALT SPROUTS

Chicago: Demand slow; supply adequate; No. 1 $41.50.

St. Louis: Demand slow; trend lower; supply adequate; No. 1 bulk $39 ton, No. 1 sacked $44 ton, No. 2 bulk $37 ton.

Milwaukee: Demand fair; supply good; oddweights $41, evenweights $46.

Cincinnati: Demand fair; trend steady; supply adequate; No. 1 $50.50@51.

New Orleans: Demand fair; trend easier; supply light; $51@54.

Boston: Demand and supply light; No. 1 $61.50.

MEAT SCRAPS

Seattle: Demand improved; trend firm; supply sufficient; $85 ton, ex-warehouse, 50% protein.

Cincinnati: Demand good; trend steady; supply adequate; 50% $69.50 ton, sacked, f.o.b. Cincinnati.

New Orleans: Demand slow; trend steady; supply limited; 50% meat and bone $79@82.

St. Paul: Market stronger; demand and supplies limited; 50% meat and bone scraps $75@80.

Omaha: Demand strong; supply very limited; $77.50.

St. Louis: Demand slow; trend lower; supply adequate; 50% $76@73 ton bulk, $75@78 ton in paper sacks, $74@77 ton in burlap sacks.

Louisville: Demand fair to good; trend firm; supply normal; $77.50@82.50 ton.

Buffalo: Demand good; trend stronger; supply ample; 50% meat scraps $70 bulk, $75 sacked.

New York: Demand good; trend steady; supply fair; 50% $69.50, 55% $74.50, bulk; 50% $72.50, 55% $77.50, sacked.

San Francisco: Demand fair; supply ample; $1.60 a unit of protein.

Boston: Demand cautious; supply plentiful; $1.05 a protein unit; converted 50% $65.

Ogden: Supply normal; $82.50 ton in 100-lb. bags.

Kansas City: Demand fair to good; trend firmer; supply adequate; 50% meat and bone scraps $75@77.50, sacked.

Portland: Demand good; trend higher; supply ample; $1.65@1.70.

Ft. Worth: Demand improved; supply scarce; meat and bone, 50% $66@67, f.o.b. or delivered Ft. Worth.

Wichita: Demand good; supply insufficient; 50% $77.50, f.o.b. plant; 55%, no quotations, no offerings.

Chicago: Demand improved; supply fair; 50% protein $67.50@75.

MILLET

St. Louis: Demand fair; trend firm; supply adequate; recleaned Early Fortune $4.40 cwt., sacked; recleaned White Proso $4.50 cwt., sacked.

MILLFEED

Minneapolis: Market stronger on basis of improved demand and lighter mill running time. Quotations: bran $44.50@45.50, standard midds. $44@44.50, flour midds. $46.50@47, red dog $48.

Kansas City: Demand fair; mixers not showing much interest following market jump late last week; offerings fair; bran $41.50@42, shorts $42@42.50, sacked; middlings $37.50@38.50, bulk.

Omaha: Demand fair; supply good; bran $41.75, shorts $42.25, standard midds. $40, bulk.

Wichita: Demand fair; supply sufficient; basis Kansas City March 12: bran $41.25@41.75, shorts $42@42.50; bran advanced $2.25 ton and shorts $2 ton, compared with the preceding week.

Ft. Worth: Demand quiet; offerings more liberal; carlots, burlaps, prompt bran $46.50@46.50, gray shorts $47.50@48.50, delivered Texas common points; $1.50 higher on both bran and shorts, compared with previous week.

Chicago: Bran and standard midds. advanced further during the week ending March 13. Part of the reason for increase is the cleanup made of southwestern supplies. However, reports indicated that some buildup is being experienced in that area again, and outlook for a continued strong millfeed market in not good. This is not the season for a sustained firmness for millfeeds. Bran $47@47.50, standard midds. $47@47.50, flour midds. $49@50, red dog $51@53.

St. Louis: Demand slow; trend steady; supplies adequate; bran $46.25@46.75, shorts $46.75@47.25, St. Louis switching limits.

Cincinnati: Demand fair; trend higher; supply adequate; bran $52.75@53, middlings $52.75@53.75.

Louisville: Demand fair; trend stronger; supply normal; bran $51.25 ton, mixed feed $52.75, middlings $54.50, shorts $52.25.

Buffalo: Middlings were in better demand than bran and shipping positions became tight. Bran was quiet, in easier supply than middlings, and prices fluctuated with flour mill running time rather than demand factors. Demand for red dog remained light. Quotations March 13: bran $47.50@49.25, standard midds. $48.50@50.50, flour midds. $52@54, red dog $52@54.

New York: Demand good; trend upward; supply fair; bran $56@57, standard midds. $57@58.

Boston: Demand spotty; supply adequate; bran and middlings $56@56.50.

Philadelphia: Demand spotty; supply ample; bran $55, standard midds. $56, red dog $60.

Memphis: Demand poor; trend lower; supply ample; wheat bran $48.50, gray shorts $49.50, standard midds. $49.

New Orleans: Demand slow; trend weaker; supply ample; bran $51@51.75; shorts $52@52.50.

Seattle: Demand slow; trend weak; supply good; $43 ton, delivered, carlots, common transit points.

Portland: Demand slow; trend lower; supply ample; $42.50@43.50.

Ogden: Supply normal; to Utah and Idaho: red bran and mill run $43, middlings $48; to Denver: red bran and mill run $50, middlings $55; to California: red bran and mill run $50.50, middlings $55.50, f.o.b. San Francisco and Los Angeles.

San Francisco: Demand fair; supply ample; $49; red bran $53.50.

MINERAL FEED

Portland: Demand good; supply ample; trend unchanged; $43.

Ft. Worth: Demand fair; supply ample; all-purpose granules $89, block $94, mineral phosphorus 6%, granules $105, block $110; cattle-sheep mineral 7% phosphorus granules $99, block $103; hog mineral phosphorus 3½% granules $88; phosphorus 2% $78 (all in 50-lb. paper bags).

Wichita: Demand good; supply insufficient; all-purpose with iodine, 50-lb. blocks $95; 100-lb. bags $90, f.o.b. plant.

Sioux City: 50-lb. mineral blocks, 8.2% phosphorus $92; 7.6% phenothiazine sheep mineral blocks $4 each.

Ogden: Supply average; $108 ton in 50-lb. blocks; $98 ton, granular, 50-lb. bags.

Seattle: Demand fair; supply good; trend unchanged; competitive brands $45 ton; high phosphorus mixtures $65 ton.

San Francisco: Demand steady; supply good; all-purpose with iodine $70.

MOLASSES

San Francisco: Demand and supply good; $36 ton, f.o.b. cars Richmond, Cal.

Milwaukee: Demand good; supply fair; blackstrap 27¢ gal., New Orleans.

Memphis: Demand poor; trend lower; supply ample; blackstrap 26¢ gal., tank car, f.o.b. New Orleans.

Cincinnati: Demand fair; trend steady; supply adequate; 26@26½¢ gal., New Orleans.

Louisville: Demand dull; trend weak; supply normal; 26½¢ gal., tank car lots, f.o.b. Gulf ports.

Atlanta: Citrus molasses—demand good; supply limited; trend steady; $26 ton, bulk, f.o.b. Florida producing points.

Buffalo: Demand good; trend steady; supply fair; 29½¢ gal., f.o.b. Albany.

New York: Demand good, trend steady; supply fair; blackstrap 28@29¢ gal., tank cars, tank wagons, f.o.b. New York.

Seattle: Demand good; trend firm; sup-

"Delivery is always F-A-S-T when you order from BURROWS Catalog!"
BURROWS
BURROWS EQUIPMENT CO.
1316 Sherman Ave. Evanston, Ill.

FEED GRAINS
KAFIR-MILO
BARLEY - CORN - OATS - WHEAT
From Every Grain Producing Area in United States
CONTINENTAL GRAIN COMPANY

OFFICES:
New York, Chicago, Kansas City, St. Louis, Omaha, Columbus, Memphis, Norfolk, Nashville, Enid, Minneapolis, Louisville, Fort Worth, Buffalo, Toledo, Houston, Galveston, Portland, San Francisco, Vancouver, B.C., Winnipeg, Los Angeles

TERMINAL ELEVATORS:
Kansas City, St. Louis, Chicago, Buffalo, Omaha, Toledo, Columbus, Fort Worth, Portland, Galveston, Enid, Minneapolis, Norfolk, Nashville, Louisville, Memphis, Houston

ply sufficient; $36 ton, f.o.b. Seattle, tank car lots.

Minneapolis: Market easier at 26@26½¢ gal., f.o.b. New Orleans.

New Orleans: Demand slow; trend easier; supply ample; 26¾¢ gal. in tank cars, f.o.b. New Orleans; 400-lb. customers' drums $16.20.

Boston: Demand fair; supply ample; 28½¢ gal., tank cars.

Ft. Worth: Demand slow; supply adequate; blackstrap 28½¢ gal., f.o.b. Houston, delivered Ft. Worth truck $56.43; seller's market price on date of shipment.

Kansas City: Demand slow; trend steady after decline; supply adequate; after dip to point where occasional sales made at 25¾¢ gal., tank cars, New Orleans, market has recovered to range of 26@26¾¢ and now seems solid in that range.

NIACIN

New York: Trend steady; $8 kilo, 50-kilo lots; $8.10 kilo, 10-kilo lots; $8.20 kilo, 5- and 2½-kilo lots; $8.30 kilo, 1-kilo lots; freight prepaid or paid to destination.

OAT PRODUCTS

Portland: Demand slow; supply ample; trend unchanged; rolled $65, ground $61, cleaned $63.

Ft. Worth: Demand slow; supply sufficient; oat millfeed $49.05; reground oat millfeed 8% protein $28.50; 3% protein $26.50.

Chicago: Demand fair; supply adequate; reground oat feed $15; fine ground feeding oatmeal $74@75; feeding rolled oats $86@87.

Cincinnati: Demand fair; trend steady; supply adequate; reground oats $20.50; pulverized white oats $51@$1.50; rolled oats $90.50@92.50.

Minneapolis: Prices eased off as grain prices declined; demand fair. Quotations: feeding rolled oats $83@86, standard pulverized $48.50@49, feeding oatmeal $73@73.50, crimped oats $62.50, reground oat feed $13.50.

St. Louis: Demand fair; trend steady; supply adequate; reground oat feed $17 in 100-lb. burlap sacks; pulverized white oats $48.50 ton, choice $50.50.

Louisville: Demand fair; trend fairly steady; supply ample; reground $23 ton, rolled oats $92, feeding oatmeal $83, pulverized white oats $52.50, crimped white oats $75.

Philadelphia: Demand dull; supplies fair to light; pulverized white oats $56; Canadian oat feed $31.50; domestic, low grade $23.30; choice grade $26.30.

Memphis: Demand poor; supply ample; trend unchanged; 3½% protein, reground oat feed $20.75.

Seattle: Demand good; trend firm; supply sufficient; whole oats $68 ton, ground oats $68 ton, rolled oats $70 ton, all ex-warehouse, l.c.l., truck lots.

New Orleans: Demand fair; trend easier; supply adequate; reground oat millfeed $28@30; feeding rolled oats $103@105; feeding oatmeal $88@90.

Boston: Demand steady; supply adequate; white pulverized $54@58, dependent on quality and origin; ground mixed $47; reground oat feed $19.

OYSTER SHELL

Cincinnati: Demand fair; trend steady; supply adequate; $21.75.

New Orleans: Demand good; trend steady; supply plentiful; $13@15 local.

San Francisco: Demand fair; supply ample; local $15, eastern $26.

Boston: Demand good; supply plentiful; $13, f.o.b. Florida.

Portland: Demand slow; supply ample; trend unchanged; western $28, eastern $37.50, granite grits $27.

Louisville: Demand good; trend steady; supply normal; in 80-lb. packages $22.26 ton, in 50-lb. packages $22.51 ton, in 25-lb. packages $24.76 ton.

PEANUT OIL MEAL

Milwaukee: Demand and supply fair; 26% $87.

Atlanta: Demand slow; trend weak; supply limited; 45% $81, sacked, immediate.

MANEY BROS. MILL & ELEV. CO.
Minneapolis, Minnesota
Feed Ingredients of All Kinds
FORMULA MIXING FOR DEALERS
Excellent References

New Englander Products

ADD NATURE'S
RICHEST SOURCES
OF UNKNOWN FACTORS
IN ONE OPERATION
WITH
Gorton's BLENDS
For full details, write to
New England By-Products Corp.

PEAT MOSS

Chicago: Demand good; supply moderate; $3.85@3.95 standard 7½ cu. ft. bale.

Portland: Demand good; supply ample; trend unchanged; $3.25.

Seattle: Demand fair; supply good; trend unchanged; $3.90 bale, delivered, carlots, horticultural or poultry.

Philadelphia: Demand and supply fair; $3.12, f.o.b. pier

San Francisco: Demand fair; supply ample; $3.35 bale.

Boston: Demand and supply steady; $3@3.10 bale.

POTASSIUM IODIDE, U.S.P.

St. Louis: Demand fair; trend firm; supply adequate; 100% pure potassium iodide, U.S.P. 250-lb. average in drums $1.90, 100-lb. lots in fiber drums $1.92; 90% potassium iodide calcium stearate mixture, 225-lb. lots in laverpak drums $1.81, 100-lb. fiber drums $1.85.

New York: Trend steady; granular or crystals $1.90 lb. in 250-lb. drums, $1.92 lb. in 100-lb. drums, $1.95 lb. in 25-lb. drums; 90% KI in calcium stearate or carbonate mixtures, $1.81 lb. in 250-lb. drums or 200-lb. lots, $1.83 lb. in 100-lb. drums, $1.86 lb. in 25-lb. drums; f.o.b. New York, New Jersey or Pennsylvania; freight allowed to destination on 100-lb. drums or larger packings.

RIBOFLAVIN

New York: Trend steady; feed grade (in feed supplements) 4½¢ gram in 2.36 to 16 gm./lb. mixtures, freight prepaid or paid to destination.

RICE BY-PRODUCTS

Ft. Worth: Demand slow; supply moderate; carlots, rice bran $31@32, prompt shipment, f.o.b. south Texas rice mills; hulls $2@4, f.o.b. mills.

Atlanta: Demand fair; trend steady; supply limited; bran $45, sacked, immediate.

New Orleans: Demand slow; trend easier; supply adequate; $45@46, Louisiana mills, on bran; no quotes on hulls.

Memphis: Demand fair; trend steady; supply ample; bran $39, sacked, f.o.b. Arkansas points.

San Francisco: Demand fair; supply ample; bran $48, polish $52.

SCREENINGS

Cincinnati: Demand fair; trend steady to easy; supply adequate; Canadian $31.50; barley $20.50@27.

Buffalo: Demand and supply fair; trend steady to higher; ground, sacked $36.50, New York; unground, bulk $28.25, New York.

Minneapolis: Market is stronger on Canadians but easier on domestics; supplies and demand limited. Quotations: country run $20@25, lights $10@15, mediums $16@25, heavies $26@30; flax screenings $28; Canadian $20, bulk, Duluth; Canadian ground $30, sacked, Duluth.

Ft. Worth: Demand slow; more liberal offerings; 12% protein, ground $43.50, sacked, delivered Ft. Worth.

Chicago: Demand fair; supply plentiful; ground grain screenings $31.75; Canadian, bulk $24.

SOFT PHOSPHATE WITH COLLOIDAL CLAY

Atlanta: $18.85@19.10.
Buffalo: $23.65@23.90.
Chicago: $23.10@23.35.
Cincinnati: $21.50@22.
Des Moines: $23.60@23.85.
Kansas City: $23.20@23.45.
Memphis: $20.50@20.70.
Minneapolis: $24.25@25.55.
Philadelphia: $22.65@22.90.
St. Louis: $22.50@22.75.
Tampa: $18@18.20.
Toronto: $27.50@27.80.

SORGHUMS

Ft. Worth: Demand fair; offerings light; mills using drouth certificates to buy milo from CCC; carlots, bulk, No. 2 yellow milo $2.36@2.38, Texas common points.

Cincinnati: Demand fair; trend steady; supply adequate; $2.90.

SOYBEAN OIL MEAL

Milwaukee: Demand good; supply fair; $45.50, bulk, Decatur.

Seattle: Demand steady; supply good; trend stronger; $75 ton, delivered, carlots, sacked, March shipment.

New Orleans: Demand dull; trend steady; supply ample; 44% $66@66.50.

Philadelphia: Demand spotty; supply ample; $47, bulk, Decatur.

Boston: Demand and supply good; $46, f.o.b. Decatur.

San Francisco: Demand fair; supply ample; $74.49.

Atlanta: Demand slow; trend steady; supply ample; 44% $60.50, sacked, immediate.

Louisville: Demand slow; trend strong; supply normal; $59.42 ton.

Omaha: Demand fair; supply ample; 44% solvent $59.50, pellets $62; 41% expeller $65.

Minneapolis: Market about unchanged, with prices quoted at $39@40, bulk, Decatur, for immediate, and about $1 ton premium for deferred.

Memphis: Demand fair; trend steady; supply ample; prime 44% solvent $53.50, sacked, f.o.b. Memphis.

Cincinnati: Demand poor; trend steady; supply adequate; $46.50@47, bulk, Decatur.

Ft. Worth: Demand fair; supply sufficient; carlots, 44% $62.50@63, depending on origin and tonnage; truck $60, delivered Ft. Worth.

Portland: Demand normal; supply ample; trend unchanged; $40.

Ogden: Supply average; $35@90.

Kansas City: Demand slow; trend steady; supply adequate; larger production of western mills increasing spread between western shipment meal and unrestricted; $43.50, bulk, Decatur, for Kansas City and western shipment; $47 for unrestricted shipment.

Wichita: Demand poor; supply ample; 44% $62, 50% $71, f.o.b. Wichita.

Chicago: Demand picked up appreciably during the week ending March 13, and the price jumped $1.50 ton. Threat of deliveries on March futures is said to have restrained an even higher advance. Quotations: 44% soybean oil meal $58@58.50.

Decatur: Demand spotty; supply fair; 44% bulk, unrestricted $47@47.50.

SUNFLOWER SEED

St. Louis: Demand fair; trend steady; supply ample; black—large $15.50 cwt., medium $14 cwt., small $10.50 cwt.; gray—large $16 cwt., medium $14.50 cwt., small $11 cwt.

TANKAGE

Ft. Worth: Demand fair; supply very scarce; 60% digester $80@81, f.o.b. Ft. Worth.

Kansas City: Demand fair to good; trend firmer; supply adequate; 60% digester $82@85, sacked.

Chicago: Demand improved; supply fair; 60% protein $75@82.

Wichita: Demand good; supply insufficient; 60% $82.50, f.o.b. plant.

Louisville: Demand good; trend steady; supply normal; 60% $82.50@87.50 ton.

St. Louis: Demand fair; trend lower; supply adequate; 60% $80@83 ton, $85@88 ton in paper sacks, $84@87 ton in burlap sacks.

Omaha: Demand strong; supply short; $82.50.

St. Paul: Market somewhat stronger, with both supplies and demand limited. Quotations: 60% digester $78@82.

New Orleans: Demand fair; trend quiet; supply sufficient; 60% $88.50@90.50.

Cincinnati: Demand good; trend steady; supply fair; 60% digester $80.

VITAMIN E FEED SUPPLEMENT

Rochester, N.Y.: Demand and supply good; trend steady; 50- and 100-lb. drums $1.80 lb.; 25-lb. drums $1.85 lb., f.o.b. manufacturing plants, freight allowed to destination.

New York: Demand and supply good; trend steady; 50- and 100-lb. drums $1.80 lb.; 25-lb. drums $1.85 lb., f.o.b. manufacturing plants, freight allowed to destination.

WHEAT GERM MEAL

New Orleans: Demand fair; trend steady; supply adequate; $65@67, cottons.

Buffalo: Demand and supply fair; trend steady; commercial grade $66, sacked, f.o.b. Buffalo.

Chicago: Market stronger at $62.

NEW MILL

(Continued from page 1)

and portions of Tennessee and Georgia will be served from this mill.

Plant facilities will include substantial bulk grain and soft feed storage of reinforced concrete, with facilities for bulk loading of rail cars and trucks and marine facilities for handling of grain and ingredients shipped by barge.

The plant will be equipped with machinery of the latest design, including gravimetric weigh feeders for the blending operation.

The new mill is scheduled to be in operation in July.

• •

Third New Mill

GUNTERSVILLE, ALA.—The Allied Mills, Inc., plant under construction here is the third new mill announced in recent months for this community in the increasingly important poultry and livestock economy of the Southeast.

The Ralston Purina Co. recently announced the purchase of a partially complete mill at Guntersville from the Botkins (Ohio) Grain & Feed Co. (Feedstuffs, Jan. 12.) This plant, which will make a full line of livestock and poultry feeds, is scheduled for completion by May 1.

Earlier (Feedstuffs, Oct. 27, 1956), the Cotton Producers Assn., Atlanta, announced a new plant at Guntersville. The plant will be owned by Cotton Producers and operated under the name of Cooperative Mills, which is owned by five large regional farmers' cooperatives.

COLORADO GETS RAINS

DENVER — Late February and early March moisture has produced a crop outlook for Colorado that is described as "moderately optimistic." Avery Brice, Colorado A&M College economist, said the early rains have good promise, but he warned that "one rain doesn't break a drouth."

SPOT OR FUTURE SHIPMENTS IN ANY QUANTITIES
VITAMIN BEARING OILS
COD LIVER OILS — FEEDING OILS
437 FIFTH AVENUE **THE PARDEE COMPANY** NEW YORK 16, N. Y.

LEGISLATION

(Continued from page 1)

For the past several weeks, Feedstuffs has noted that there probably would be no major farm legislation this year. The spectacle of the broad schism in the farm bloc in the House is a further indication that this previous forecast is correct.

In fact, even had the House agreed on some form of new corn legislation, there was small possibility that the Senate Agriculture Committee would even meet to take up any House-passed measure on this subject.

As the weekend rolled around, the status of the corn was that commercial corn area farmers will operate under the acreage allotment of 37 million acres and be required to comply with allotments for their individual farms to obtain price support at the announced 73% of parity or $1.36 bu.

After the House debacle on corn legislation, Marvin McLain, assistant secretary of agriculture, was quoted as saying that to prevent any disastrous break in the corn market this year, he will be prepared to put another supplementary support level for non-compliers with allotments at some level lower than the top level of $1.36 for compliers.

Under the law as it now stands, commercial corn area farmers must comply with their acreage allotments to obtain price support, and if they wish to gain Soil Bank payments, they also must reduce their acreage allotments by 15% of corn crop land. This means that they cannot, as last year, take out oats, barley, rye or grain sorghums and gain Soil Bank payments.

It is somewhat surprising that the commercial corn area farmers are now disclosing that even under the tight 37-million-acre allotment, they are committing more than 4.25 million acres to the Soil Bank this crop year. It may be noted, however, that most of the Soil Bank contributions are coming from fringe states in the commercial corn area or in drouth area states.

Such statistical evidence supports economists' beliefs that the Soil Bank is not a significant factor in reducing excessive feed grain production and is a device wherein farmers are being paid for taking out land which normally should never be used for field crop production.

WASHINGTON WIRE

(Continued from page 1)

Brazil are not expected to do much for the fats and oils markets pricewise. FAS officials indicate the procurements will be $7.5 million for Spain and $5 million for Italy. Trade sources say it will take more than these authorizations to accelerate price advances. In the case of the lard purchase there may be an exception, however, for lard supplies are reported tight and lard may be subject to some bullishness, following the announcement.

• • •

USDA officials expressed surprise at reports on sign-ups for the 1957 soil bank acreage reserve. Nearly 4.5 million corn acres are signed, a surprise in view of the tight 37 million acre allotment. Cotton sign-ups are only 2.6 million acres—far short of the 4 million acres expected. The estimates are considered low. Corn is expected to pass 5 million acres and cotton to increase but stay below 4 million acres. Liberalized sign-ups are planned for corn, but the additions are subject to local limitation judgments. Corn sign-ups are strong in the drouth areas, but are getting little attention in the big Corn Belt counties in Illinois and Iowa.

COLORADO CONFERENCE—Three panel discussions—on dairy, beef cattle and poultry nutrition—were features of the recent Colorado Formula Feed Conference at Colorado A&M College, Fort Collins. On each panel were a feed industry man, feeder and college nutritionist. Panel members and moderators are shown in these three pictures. In the first photo are members of the poultry panel—left to right, Dr. H. L. Wilgus, Peter Hand Foundation, Chicago; Donald Jackson, Arvada, Colo., turkey producer, and Dr. Paul Thornton, assistant professor of poultry at Colorado A&M. At the right is the moderator, Ted Hartung, extension poultry specialist at the college. In the second picture are members and the moderator of the beef cattle nutrition panel—Dr. O. Burr Ross, Gooch Feed Mills, Salina, Kansas; Louis Bein, Jr., Berthoud, Colo., feeder; Dr. Lloyd Washburn, head of the college's animal husbandry department, and Dr. Sherman S. Wheeler, dean of the School of Agriculture, who acted as moderator. In the third picture is the dairy nutrition panel—Dr. Chase Wilson, Dannen Mills, Inc., St. Joseph, Mo.; Joseph Willett, Colorado Springs dairyman, and Dr. Gerald Ward, assistant professor of dairy industries. Moderator was E. K. McKellar, head of the A&M dairy department.

SOW AND LITTER

(Continued from page 8)

sow or gilt are recommended. The first mating on gilts should be on the first day of estrus and the first mating on sows on the second day of estrus. The second service should follow the first by 24 hours.

(Note: When only one mating can be made during the estrus period, it is recommended that gilts and sows be served on the second day of estrus.)

6. When weaning under two weeks of age, it is recommended that sows be bred on the second heat period after weaning. It is generally satisfactory to breed sows on the first heat period following weaning at three or more weeks.

7. It is recommended that gilts and sows be kept separate during the gestation period unless they are self-fed a bulky ration.

8. Effective mange and lice treatment is recommended during gestation.

9. Boars should be eight months old before being used in the breeding herd.

10. Whenever practical, it is recommended that boars be used to serve several sows or gilts outside the breeding herd prior to serving those in the breeding herd.

11. Boars of the same age or size can be run together during the off-breeding season. Boars of different ages, junior and mature, should not be run together.

12. The recommended size of exercise lot for holding a boar is ¼ acre.

13. The maximum number of services per boar should be:

	Per day	Per week	Per month
Mature boar	3	12	40
Junior boar	2	8	25

14. The use of a breeding crate is recommended when breeding gilts to old boars. It is often desirable to use a breeding crate when mating old sows to young boars.

15. Hand or individual mating of boars to sows or gilts is recommended over field mating. However, if field mating is practiced, two methods are recommended. One method is to split the sow or gilt herd so as to have one boar per group. Another method that is recommended is to alternate boars in the sow or gilt herd; that is, use one boar or set of boars one day and another boar or set of boars the next day.

16. On good legume or legume-grass pasture, allow 10 to 12 gilts or 8 to 10 sows per acre.

17. The square feet of housing or shade per animal should be as follows:

	Winter (housing)	Summer (shade or housing)
Gilt, or junior boar ..	15 sq. ft.	17 sq. ft.
Sow, or mature boar ..	18 sq. ft.	20 sq. ft.

FEEDING MANAGEMENT

18. Hand feeding of sows and gilts during gestation is generally recommended as greater utilization of pasture and other desirable roughages can be attained and the condition of the sows and gilts can be more closely watched, but specially adapted bulky rations can be successfully self-fed.

19. When sows and gilts are self-fed during gestation, the number per linear foot of feeder space, or self feeder hole, should be as follows: Pasture 3 to 4; drylot 2 to 3.

20. For hand feeding in troughs of gilts and sows during gestation, or for hand watering, the linear feet of space required per gilt or sow is 1½ to 2 ft.

21. When alfalfa hay is fed in a rack, 4 sows may be fed per linear foot of rack space.

22. Bred sows and gilts may be used to glean corn left in fields, providing an excessive amount of corn is not on the ground and supplement is available.

23. One automatic watering cup should be provided for each 12 gilts, or for each 10 sows. (An automatic waterer with 2 openings should be considered two cups.) Additional watering space may be required during warm weather.

Ohio Firm Buys Provico Feeds

CINCINNATI — Botkins (Ohio) Grain & Feed Co. has purchased the inventories and name of the Provico Feeds division of Kentucky Chemicals Industries, Inc., and sales personnel of Provico Feeds have joined Botkins. The sale price was not announced. Provico Feeds have been manufactured by the local firm since 1942.

At an annual meeting of directors last week, A. J. MacGregor was elected president of Kentucky Chemicals Industries, succeeding his father, R. W. MacGregor, who becomes chairman of the board. Other new officers are John T. Milburn and John M. Hunnicutt, vice presidents, and Leo A. Franxman, secretary-treasurer.

Mr. MacGregor said Kentucky Chemicals Industries will hereafter be engaged in the rendering and tallow business as "producers of high quality meat scraps, tankage, tallows and greases, as well as high protein concentrates."

SEEK PELLET MACHINERY

WASHINGTON—The International Cooperation Administration, acting for its mission in Laos, has asked firms to supply catalogs for a variety of industrial equipment. Included in the section for processing raw materials bought in bulk is a request for catalogs of machinery making animal feed pellets. Interested firms may address their catalogs to U.S. Operations Mission to Laos, in care of the American Embassy, Vientiane, Laos.

Course Planned for Elevator Managers

STILLWATER — Final program arrangements for the second annual Grain elevator managers short course have been made by the Oklahoma A & M extension division.

The course will offer numerous subjects on grain processing and marketing to approximately 125 elevator managers from Oklahoma and neighboring states on March 26-27.

Price Feuquay, chairman of the National Grain Council, Enid, will be one of the featured speakers. He will talk on "Fifty Years of Grain Progress."

Kenneth R. Majors, extension grain utilizations specialist, with the United States Department of Agriculture in Washington, will speak on increasing wheat usage and expansion of wheat marketing.

D. G. Nelson, A & M extension grain marketing specialist, is in charge of program arrangements. The program was devised by an advisory committee of the grain trade in cooperation with Oklahoma A & M staff members.

Founder of Brower Manufacturing Dies

QUINCY, ILL.—William J. Brower, chairman of the board of the Brower Manufacturing Co., Quincy, Ill., died in a hospital here March 14. He was 84 years old.

Mr. Brower was born at Grafton, Ill., in 1872 and was orphaned shortly afterward.

In 1922 he and his family of seven children moved to Quincy where, with $1,400, he founded the Brower Manufacturing Co. Since then, under his leadership, the firm has become one of the nation's largest manufacturers of poultry equipment with world-wide distribution, four factories and two offices. The firm also makes a line of hog and livestock equipment and a mixer for the feed trade.

Mr. Brower was president of the company for 29 years and he was elevated to chairman of the board in 1951. He was succeeded as president by Bernard J. Brower.

William J. Brower was active in affairs of Quincy College, and in 1946 laid the cornerstone of the Brower Engineering building at that school. He was given an honorary degree of doctor of laws in 1954. He was an honorary member of Rotary International, held a fourth degree in the Knights of Columbus, was an Elk and was a member of the board of the Salvation Army.

Services were held at St. Boniface Church, Quincy, on March 16. He is survived by his widow, two sons, Bernard and Willard; three daughters, and was preceded in death by three sons and a daughter.

Wilson Announces Several Improvements

CHICAGO—Several improvements recently have been effected in the animal protein by-products plant of Wilson & Co., 43rd St. and South Hermitage Ave., Chicago. J. R. Ward, head of the animal and poultry feed department of the firm, says the steps were made to continue a policy of offering high quality animal by-products with convenient service.

The improvements include enlargement of storage facilities for bone and meat scraps and tankage, enlarged truck docks, new grinding and screening facilities, new batch-mixing equipment arranged in series and new bag-filling and handling equipment for loading finished products.

Kansas City Feedman Tours Latin America

KANSAS CITY—Eugene L. Selders of the Eugene L. Selders Co., Kansas City, feed broker, left this week with a group of Kansas City businessmen on a trade tour of several Latin American countries. Mr. Selders is a member of the Kansas City Commission on International Relations & Trade which was established by the city council about a year ago.

The group will visit Guatemala, Mexico, Cuba, Jamaica, Haiti, Dominican Republic and Puerto Rico. The trip will be made by air and will require 15 days. The group will be entertained officially in all of the countries.

Memphis Oil Meal Futures Close Lower

MEMPHIS—Protein oil meal futures on the Memphis Board of Trade were mostly lower at the close March 13 than on March 6. Unrestricted soybean oil meal closed 25¢ to 50¢ a ton lower than the previous week, Eastern trunk line soybean oil meal unchanged to 50¢ lower, bulk solvent cottonseed oil meal unchanged to 50¢ lower, and sacked old process cottonseed oil meal unchanged to 50¢ higher.

A somewhat easier cash meal market was regarded the chief factor in the decline. Also traders for the most part awaited new incentives.

Dealings for the five-day period amounted to 28,200 tons of unrestricted soybean oil meal, 5,000 tons of Eastern trunk line soybean oil meal, 1,300 tons of bulk solvent cottonseed oil meal, and 800 tons of sacked old process cottonseed oil meal.

MRS. JOHN H. LYNDS DIES

KANSAS CITY — Mrs. Katherine Teresa Lynds, 87, widow of John H. Lynds, Jr., whose father founded the old Vanderslice-Lynds Grain Co. here, died recently.

Chicks Placed in Principal Broiler Areas

(000's omitted)

Week ending	Maine	Conn.	Penn.	Ind.	Ill.	Mo.	Del.	Md.
January 5	980	544	695	626	137	510	1,817	1,496
January 12	926	481	613	790	123	494	2,032	1,444
January 19	989	428	892	712	140	543	2,040	1,557
January 26	967	585	674	693	140	495	2,055	1,615
February 2	880	531	648	879	136	593	2,140	1,355
February 9	909	595	712	843	156	616	1,888	1,528
February 16	923	499	722	656	193	582	1,859	1,409
February 23	902	576	594	765	152	624	1,602	1,418
March 2	963	519	689	792	211	618	1,811	1,373
March 9	976	575	711	852	177	521	2,012	1,410

Week ending	Va.	W. Va.	N.C.	S.C.	Ga.	Fla.	Ala.	Miss.
January 5	1,165	350	1,772	298	4,415	222	1,791	1,213
January 12	1,211	469	1,824	290	4,763	208	1,847	1,223
January 19	1,242	452	1,970	295	4,832	208	1,783	1,316
January 26	1,357	446	1,913	295	5,160	208	2,080	1,297
February 2	1,340	466	2,115	274	5,169	231	2,004	1,302
February 9	1,223	483	1,959	302	5,191	249	1,992	1,463
February 16	1,122	471	2,021	303	5,155	212	2,047	1,398
February 23	1,221	459	1,593	322	5,137	269	2,033	1,372
March 2	1,214	498	1,934	308	5,077	241	2,077	1,403
March 9	1,232	629	1,945	345	5,154	232	2,037	1,403

Week ending	Ark.	La.	Texas	Wash.	Oregon	Calif.	Total 22 areas 1957	1956
January 5	1,973	299	1,998	178	118	840	23,339	21,551
January 12	2,053	335	2,168	190	111	848	24,428	21,537
January 19	1,981	290	2,103	146	170	868	24,660	21,236
January 26	2,118	303	2,254	211	124	879	25,789	22,522
February 2	2,328	315	2,179	207	209	938	26,246	23,195
February 9	2,262	332	2,325	229	179	984	26,420	23,720
February 16	2,221	344	2,246	239	169	926	25,707	24,120
February 23	2,354	282	2,108	265	187	827	25,592	24,248
March 2	2,260	399	1,958	281	149	814	25,572	24,480
March 9	2,365	403	1,991	244	146	793	26,152	24,980

H. L. Kell

J. Thomas Haigh

ELECTED—J. Thomas Haigh has been elected vice president, director of marketing, for the Strong-Scott Manufacturing Co., Minneapolis, and H. L. Kell has been named secretary. Mr. Haigh has been director of marketing for the past year and previously was with General Foods Corp., Schutz O'Neill Co., and Pillsbury Mills, Inc. Mr. Kell has been with Strong-Scott since 1930 and has served as chief accountant and controller. Promoted to executive vice president (Feedstuffs March 9, page 8) was R. R. Strong who was formerly secretary and manager of new product development.

LIVESTOCK

(Continued from page 6)

saved for breeding) numbered 10.5 million head, down 16% from the previous year. The number of sows and gilts, at 8.4 million head, was down 2%, in line with intentions to reduce spring farrowings by 2%.

All regions showed a decrease in numbers except the South Atlantic states, which showed an increase of 3%. This is another reflection of the increased importance of animal agriculture in the Southeast. In the Corn Belt, which has almost three fourths of all hogs, the decrease in numbers was 7% from Jan. 1, 1956. Some states in the area, however, held even or increased slightly.

Sheep: Sheep and lamb numbers declined 1% during 1956 to a total of 30.8 million head on Jan. 1, 1957 —the smallest total since 1951. Sheep and lambs on feed at the beginning of this year totaled 4.5 million head, up 5% from a year earlier. Stock sheep numbers, at 26.4 million head, were down 2%. A classification breakdown on stock sheep shows ewe lambs down 3%, all lambs down 3%, ewes down 2%, rams down 3%, wethers down 8%.

Horses and Mules: The downtrend in horses and mules continues. The Jan. 1 inventory of 3.6 million head was off 9% from a year earlier and was the lowest total on record. The number of horse and mule colts under two years of age on Jan. 1, at 194,000, was down 3% but was still only 5% of total numbers and too small to check the downtrend in horse and mule numbers.

Chickens: Chickens on farms Jan. 1 (excluding commercial broilers) totaled about 393 million—3% more than a year earlier. Numbers increased in all regions except the West, where they were unchanged.

Pullets on Jan. 1 totaled 251.6 million and hens 119.8 million. This is an increase of 5% for pullets and a decrease of 2% for hens. Farm flocks on Jan. 1 consisted of 64% pullets, 31% hens and 5% other chickens.

Turkeys: Holdings of turkeys (excluding turkey fryers) on farms Jan. 1 totaled 5.7 million—up 17% from a year earlier. Heavy breeds totaled 5 million, for a 20% increase. Light breeds were 710,000, for a 3% decrease.

Heavy breed turkey breeder hens were estimated at 3.2 million—a 14% increase. Light breeds were 447,000 —a 2% decrease.

Holdings of market birds over four months old on Jan. 1 were up 26%.

PLAN NEW ELEVATOR

WINNER, S.D. — Wayne Deaver and Clarence Meyer, both of Alliance, Neb., have announced they will build a new 208,000 bu. concrete elevator to serve this area. The firm name will be Deaver-Meyer Grain Co.

CREATE THE TASTE THAT SELLS WITH . . .

- Anise Compound
- Anise-Fenugreek
- Anise-Licorice
- Anise-Molasses
- Dog Food Flavor
- Fenugreek
- Molasses Extender
- Pig Feed Flavor
- Poultry Feed Flavor

SPECIAL FLAVORS developed to meet your requirements

MAKE YOUR PIG FEEDS TOPS THIS SPRING

Tastelation®

LIQUA-SOLID

DOUBLE STRENGTH

PIG FEED FLAVOR

A special "sweetness" factor with or without sugar in the pre-starter, starter or pig feed. An enticing flavor without tiring effect. DOUBLE STRENGTH for economy.

Write or phone for money-saving new price list & sample.

Taste Engineering, Inc.

MANUFACTURERS • IMPORTERS • DISTRIBUTORS

Paul Q. Card, Technical Director

MOnroe 6-5255

1401 West Hubbard Street • Chicago 22, Illinois

Livestock Advisory Group Suggests Feeding Research

WASHINGTON—Some studies related to feeding were among expanded research programs recommended by the U.S. Department of Agriculture's livestock research and marketing advisory committee at its annual meeting last week in Washington.

These included work on the chemistry of hormones related to animal production, research on the composition of forage crops and increased studies on the composition and processing of protein by-products of the meat industry to increase their feeding values and uses.

The committee expressed gratification that funds for an animal disease research laboratory had been appropriated by Congress, and that plans for the facility are now under way.

The advisory group is composed of persons outside USDA chosen to advise the department on research needs in the livestock field. The ten members discussed research needs in three categories. They covered production research on beef cattle breeding and of insect carriers of livestock diseases, utilization research on composition of food fats to help make shortenings and other fats with needed nutritional qualities and marketing research on price of meat and meat animals with expanded work on marketing pork from meat-type hogs to learn more about consumer and trade acceptance and price differentials.

The committee also asked for more expanded research on livestock auction markets to determine the most effective organization, volume, facilities, practices and controls.

FEED MAN RETIRES

BOONVILLE, MO.—Alvin J. Bozarth, who has operated the feed and produce firm bearing his name here for 41 years, has sold the business to the F. M. Stamper Co., Moberly. The local firm will be operated here under the name of the F. M. Stamper Feed Co. Manager of the new company in Boonville will be John Tebbe.

GREAT LAKES SHIPS TO MOVE SOON

BUFFALO—Great Lakes freighters probably will be able to get in and out of Buffalo harbor by April 1 to open the 1957 navigation season here. The Weather Bureau said reports from airline pilots indicate that Lake Erie ice is thin and well broken up along the north shore between Long Point and Pt. Abino, Ont., but along the south shore, ice is clear and solid. In Buffalo, all but seven of the 39 freighters in the winter grain-storage fleet now have been unloaded and all will be ready to resume sailings when the season opens.

The Coast Guard will be making periodic ice surveys outside Buffalo Harbor from now until the ships are able to plow their way in and out of the harbor. The Coast Guard ice-breaking cutter Ojibwa is in Buffalo to break up ice, particularly near the mouth of the Niagara River.

MARKETS

(Continued from page 2)

of sales, but starting and growing mashes are beginning to move. Broiler feeds are being shipped, but one spokesman said "not in runaway volume." Dairy feeds are holding up well.

Broiler prices were about steady in the Buffalo area at 20½@22¢ lb. In the New England area they also were steady. Eggs in the Buffalo area were steady, and in other eastern areas they were steady to a little weaker.

Demand for middlings was better than for bran. Sales of bran were quiet, and prices fluctuated with flour mill running time. Orders for red dog were still on the light side. Other formula feed ingredients were mixed, price-wise, with quite a few holding unchanged.

Running time of formula feed manufacturers averaged 40 hours last week.

Central States

Formula feed business showed some slight improvement in the central states during the week ending March 13, but no major spring pickup is expected immediately. Spokesmen say they expected a fair gain to be in evidence by now, but they are resigned to a wait of a few more weeks. The sunny weather over the Midwest in the last few days might bring more important thinking about livestock feeding plans.

Feed mills are running a full five days a week in most cases, but some are on reduced shifts. Hand-to-mouth operations are the rule, rath-

INDEX OF ADVERTISERS

Abbott Laboratories 91
Aeroglide Corporation .....
Agri-Tech, Inc. 5
Alabama Flour Mills .....
Albers Milling Co. 52
Albumina Supply Co., Inc. 93
Allied Chem. & Dye Corp., Nitrogen Division 82
Allied Mills, Inc. .....
Amburgo Co. .....
American Agricultural Chemical Co. .....
American Cyanamid Co. 62, 63
American Dehydrators Assn. 52
American Elevator & Grain Division .....
American Mill Service Co., Inc. .....
American Poultry & Hatchery Federation.. 73
Anchor Serum Co. .....
Anderson Box Company .....
Anderson, V. D., Co. 81
Andrews Machine Co. .....
Arcady Farms Milling Co. .....
Archer-Daniels-Midland Co. 11
Arkell & Smiths 78
Armour & Co. 22
Aubrey Feed Mills .....

B-M-K Corporation .....
Baker, H. J., & Bro. .....
Barker, Moore & Mein Co. .....
Barnard & Lees 19
Bartlett, The C. O., & Snow Co. 50
Barton Salt Co., The .....
Baughman Manufacturing Co., Inc. .....
Baxter, A. E., Engineering Co. .....
Bemis Bro. Bag Co. .....
Berg, Paul .....
Bigelow Sales Co. 111
Bingman Laboratories, Inc. .....
Black, Sivalls & Bryson, Inc. .....
Blatchford Calf Meal Co. 96
Blomfield-Swanson .....
Borden Company 21
Bosworth Commission Co. .....
Bowman Feed Products, Inc. 66
Bramco Alfalfa Mills, Inc. .....
Brewers Yeast Council, Inc. .....
Brower Manufacturing Co. 20, 65
Bryant Engineering Co. 74, 107
Burrell, James H., & Sons, Inc. 86
Burrows Equipment Co. 111
Burrus Feed Mills 95
Butler Chemical Co. 99
Butler Manufacturing Co. .....

Calcium Carbonate Co. 54
California Pellet Mill Co. 88
Caple, A. B., Co. .....
Capper Publications 23
Cargill, Inc. 35
Cesco 16
Champion Portable Mill Co. 103
Chentland Mfg. Co. 98
Chase Bag Co. 36
Checkerboard Elevator Co. .....
Chicago Feed Ingredient Co. .....
Citrus Processors Association .....
Cleveland Vibrator Co., The .....
Clinton Corn Processing Co. 98
Clofine, Herbert K. .....
Colby Milling, Inc. .....
Collier Livestock Feeder Co. .....
Columbia Phosphate Co. 107
Columbia Quarry Co. 75
Columbian Steel Tank Co. 34
Commercial Solvents Corp. 12, 13
Consolidated Blenders, Inc. 56
Continental Grain Co. 111
Continental Steel Corp. 92
Corn Products Sales Co. 68
Coronet Phosphate Co. 20, 83
Coshocton Farmers Exchange Co. .....
Crete Mills 55
Cromwell Paper Co. 57

D. C. A. & Company .....
d-Con Company, Inc., The .....
Daffin Manufacturing Co. .....
Dannen Mills, Inc. 41
Davis, H. C., Sons' 107
Dawe's Laboratories, Inc. 49, 97
Day Company, The .....
Daycom, Inc. .....
Dayton Bag & Burlap Co. .....
Dehydrating Process Co. 7
Deveid, Peder, Oil Co. .....
Diamond V Mills, Inc. .....
Distillation Products Industries 67
Distillers Feed Research Council .....
Doty Technical Laboratories 98
Douglas Chemical Co. 58, 59
Dow Chemical Co. 18, 19
Duplex Mill & Mfg. Co. 91
DuPont de Nemours & Co., E. I. .. 29

Early & Daniel Co. .....
Eastman Chemical Products, Inc. 32
Ehrsam, J. B., & Sons Mfg. Co., The....
Elam Grain Co.... .....
Elin Manufacturing Co. .....
Elk Valley Alfalfa Mills, Inc. .....
Entoleter Division, Safety Industries, Inc...
Erlez Mfg. Co. .....
Eschenheimer, Rudy, Co. 98
Eisheiman, John W., & Sons .....
Essmueller Co. .....
Ewing, Ray, Co. 71
Exact Weight Scale Co. .....
Excelsior Milling Co. .....

Fafard, Conrad, Inc. .....
Farmer Feeder Co., Inc. .....
Farmers Friend Mineral Co. .....
Feed Associates, Inc. .....
Fischbein, Dave, Co. .....
Flambeau Milling Co. 24
Flavor Corp. of America 81
Flour Mills of America, Inc. .....
Food Research Laboratories, Inc. 20
Forster Mfg. Co. 44
Foster & Felter Co., The 107
Fox Co. 22
Fruen Milling Co. 7

Gabrielson Feeds .....
General Distributing Co., Inc. .....
Godshalk Sheet Metal Fabricators 107
Gorton-Paw Fisheries 113
Grain Processing Corp. 43
Gump, B. P., Co. .....

Hales & Hunter Co. .....
Hallet & Carey Co. .....
Hand, Peter, Foundation 3
Hardy, H. E., & Co. .....
Hardy Salt Co. .....
Harris-Crane, Inc. .....
Harshaw Chemical Co. .....
Hayes and Stolz 81
Haynie Manhaden Products, Inc. .....
Henderson Mfg. Co. .....
Herring Sales Co. 57
Hess & Clark, Inc. 69
Heterochemical Corporation 68
Heywood & Babb, Inc. .....
Hiawatha Grain Co. .....
Hilltop Laboratories 83
Hoffman-Taff, Inc. 79
Hogenson Construction Co. 79
Hogg, N. D., Ltd. .....
Holt Products Co. .....
Homer Mfg. Co., Inc., The .....
Hot Spot Detector, Inc. 10
Honeggers' & Co. 47
Honeymead Products Co. 28
Howes, S., Co., Inc. .....
Hubbard Milling Co. .....
Hubbell, Charles H. .....
Hudson Pulp & Paper Corp. .....
Hygeno Litter Company 18

Ibberson, T. E., Co. .....
Illinois Soy Products Co. .....
Industrial Fumigant Co. 23
International Minerals & Chemical Corp. .....
International Paper Co. .....
International Salt Co., Inc. .....
Interocean Commodities Corp. .....
Interstate Mills, Inc. .....
Iowa Limestone Co. .....

J-M Trading Corp. .....
Jacobson Machine Works 15
Jersee Co. 87

Kansas Farmer 25
Kansas Soya Products Co., Inc. 30
Katz, Max, Bag Co. 99
Kaul & Company 91
Kellogg, Spencer, & Sons, Inc. 84
Kemp, C. M., Mfg. Co. .....
Kent, Percy, Bag Co., Inc. 31
Keystone Steel & Wire Co. .....
Kindstrom-Schmoll Company .....
Kovisch, Charles J., Grain Co. .....
Koppers Co., Inc. .....
Kraft Bag Corp. .....
Kraft Foods Co. 48
Laboratory Construction Co. .....
La Budde Feed & Grain Co. 89
Lakeland Engineering Equip. Co. .....
Land O'Lakes Creameries, Inc. .....
Lashoff Grain Co. .....
Leffwich, J. H., & Co., Inc. 68
Le Gear, Dr., Medicine Co. 104
Lilly, Eli, & Co. 16
Lima Armature Works .....
Limestone Products Corp. of America 100
Lonceis Phosphate Co. 19

McCabe Grain Co., Ltd. 28
McKesson & Robbins, Inc. .....
Maney Bros. Mill & Elev. Co. 70, 112
Marco Chemical Co. 9
Marco Mills, Inc. 36
Martenis, C. J., Grain Co. .....
Martin, Theo. W., & Son .....
Mayo Shell Corp. 22
Melos Manufacturing Co. 105
Merchants Chemical Co., Inc. 100
Merck & Co., Inc. 45
Mid-Continent Grain Co. 46
Midland-Western, Inc. 97
Mid-West Business Exchange 106
Midwest Dried Milk Co. .....
Milbrew Co. .....
Miller Manufacturing Co. .....
Miller Publishing Co., The .....
Minnesota Linseed Oil Co. 52
Minnesota Specialty Co., Inc. 25
Mitchell, Hutchins & Co. 75
Monsanto Chemical Co. 14
Morton Salt Co. 51
Munson Mill Machinery Co. .....
Murphy Products Co. 83
Myers-Sherman Co. .....

Nagel, Herman, Co. 89
Natl. Alfalfa Dehydrating & Mlg. Co..... 64
Natl. Chlorophyll & Chem. Co. .....
National Cottonseed Products Assn., Inc...
National Distillers Products Corp. 25
National Lead Co. 61
National Molasses Co. .....
National Oats Co. .....
National Renderers Assn. 97
National Turkey Federation Underwriters...
Neills Feed Co. 99
New Century Co., The .....
New England By-Products Corp. 112
Nichols Incorporated 60
Nigh, W. H., & Co. .....
Nitrogen Div., Allied Chem. & Dye Corp... 82
Nootbaar, H. V., & Co. .....
Nopco Chemical Co. 85
North American Trading & Import Co..... 72
North Carolina Grasalfa Corp. 76
North East Feed Mill Co. .....
Norwood Manufacturing Co. 31
Nutrena Mills, Inc. 35

Oyster Shell Corp. 34
Oyster Shell Products Corp. 105

Pacific Processing Corp. .....
Panogen, Inc. .....
Paper-Calmenson & Co. 24
Pardee Company, The 112
Park, Philip B., Inc. 50
Parks, J. P., Co. .....
Parrish, N. K. .....
Parrish & Heimbecker 88
Paxton Processing Co., Inc. 107
Pay Way Feed Mills, Inc. 65
Peavey, P. H., & Co. 63
Pfizer, Chas., & Co., Inc. 26, 27
Phelps Dodge Refining Corp. .....
Pittsburgh Plate Glass Co. 103
Plass & Sheahan .....
Pope Testing Laboratory, The 74
Prater Pulverizer Co. 107
Premier Peat Moss Corp. 52
Publicker Industries Inc. 72

Quaker Oats Co. 33

Ralston Purina Co. 93
Rapids Machinery Co. 31
Raymond Bag Corporation .....
Red River Alfalfa Co. .....
Rees Blowpipe Mfg. Co. 10
Reisman, H., Corp. 75
Rhinehart Co. .....
Richardson, James, & Sons .....
Richardson Scale Co. .....
Riley Feed Co. 80
Rion Crush Stone Corp. .....
Robloff Bros., Inc. .....
Rolfes Grain Aeration Companies 78
Roskamp Heller Mfg. Co., Inc. .....
Ross Equipment Co. 48
Ryde & Co. .....

S & H Laboratories, Inc. .....
Salsbury's, Dr., Laboratories 77
Scanlan, Ivan, & Co. .....
Schenley Distillers, Inc. .....
Schreiber Mills, Inc. .....
Schuster-Wise Grain & Feed Co. .....
Schutte Pulverizer Co., Inc. 61
Scroggins Grain Co. 76
Seagram, Joseph E., & Sons, Inc. .....
Seaway Grain Co. 44
Security Mills, Inc. .....
Sedberry, J. B., Inc. 42
Seedburo Equipment Co. 65
Selders, Eugene L., Co. .....
Seley & Co. .....
Shellbuilder Co. 46
Shell Chemical Corp. .....
Shuford, J. C., Company 107
Sievert, C. W., and Associates 87
Slime Chemical Corp. 72
Simonsen Mfg. Co. .....
Small, The W. J., Co. 70
Smith-Douglass Co. .....
Smith, Edward E., & Co. .....
Soft Phosphate, Inc. 97
Southern Equipment Company .....
Southwest Mill Supply Co. 107
Sparks-Waters-Farnon, Inc. .....
Special Products, Inc. .....
Specifide, Inc. .....
Spencer Kellogg & Sons, Inc. 84
Sprout, Waldron & Co., Inc. 17, 28, 96, 104
Stabilized Vitamins, Inc. .....
Staley, A. E., Mfg. Co. 89
Staley Milling Co. 116
Standard Brands, Inc. 44, 60, 84
Standard Feed & Fertilizer, Inc. 87
Stone Mountain Grit Co. .....
Strong-Scott Mfg. Co. 87
Sunset Feed & Grain Co., Inc. .....
Superior Feed Co. .....
Swanson, Carroll, Sales Co. 32
Swift & Co. 79

T. D. P. Company .....
Tamms Industries .....
Taste Engineering, Inc. 114
Technical Products, Inc. .....
Thayer Scale and Engineering Corp. .....
Thomas, Carl, Equipment Co. .....
Thompson Printing Co. .....
Tobias Enterprises 75
Tuscarora Chem. Works .....

Ultra-Life Laboratories, Inc. 80
Union Bag-Camp Paper Corp. 66
Universal Hoist & Mfg. Co. 68
U. S. Industrial Chemicals Co. .....
Upjohn Company, The 24

Van Camp Laboratories 101
Van Dusen Harrington Co. 65
Varity Mills, Inc. .....
Vitality Mills, Inc. .....
Vitamins, Inc. 82
VitaVax, Inc. .....
Vitron Corp. .....
Vy Lactos Laboratories, Inc. 47

W-W Grinder Corporation 84
Wallace & Tiernan Co. Inc. .....
Warren-Douglass Chemical Co., Inc. 19
Waterloo Mills Co. .....
Weller, S. I., Co. 47
Wells, Ralph, & Co. 78
Wenger Mixer Mfg. Co. 70
Western Condensing Co. 37, 38, 39
Western Yeast Company 28
White Shell Corporation .....
Whitmoyer Laboratories, Inc. 99
Whitten Co., The 102
Wilson & Co., Inc. .....
Wilson, R. S., Co. 86
Wirthmore Feeds .....
Wisconsin Alumni Research Foundation 85
Woodward & Dickerson Inc. 42
Wyatt Manufacturing Co., Inc., The .....

Young, John P., Company .....

Zellers' Laboratories .....

er than the exception, but some report a backlog of two days. Several firms indicate their volume for the first months of the year are behind the same period of 1956.

Poultry feed, including starter rations, comprises the bulk of the business. Concentrates also picked up some in the last week. Prices are somewhat stronger.

Pacific Northwest

The formula feed business was somewhat improved during the week, with a general tone of activity throughout the trade. Much of this could be attributed to increased sales of garden and nursery supplies at both the wholesale and retail levels, but feed millers also stated that their business seemed to have a bit more "punch" in it than they have noticed since the turn of the year. Perhaps increased usage of turkey feed was in part responsible for this more favorable tone in the trade.

Dairy and laying rations continued to move into consuming channels at a regular rate, and little change was noted in the broiler market. Overall volume was up perhaps 3 to 5%, but the general tone of the trade was improved.

Millfeed has taken a sharp drop in price in the past couple of weeks, and this has influenced the price of dairy feeds downward about $1 ton. The rest of the list held steady for the most part, with meatscrap a bit stronger and fish meal holding its own. The pressure was off of nearby soybean meal, which moved up a couple of dollars a ton, and the hay market was steady and unchanged, with buyers still picking up fairly good quantities of hay, but on a spot basis.

While there was nothing of great note in the trade, the undertone appeared to be improved, and most feed millers stated that they expect volume up to, or above, that of a year ago.

Ohio Valley

Further slight increases in sales of formula feeds were reported this week in the Ohio Valley, but the market still was listed as quiet, compared with the volume anticipated for mid-March. Contrary to expectations, turkey feeds and chick starters continue to move out at a slow pace, but it is expected demand for these feeds will improve considerably in the near future, especially if feeding ratios continue to improve.

Warmer weather during the last week, with temperatures in the high 60's on several days, started pasture grasses sufficiently to enable farmers to turn their flocks into the fields. But, at the same time, sales of dairy and hog feeds were reported in increased tonnages, thus indicating the unpredictable situation prevailing at this time in this area.

After having been on the weak side for several weeks, formula feed prices were steady to up 50¢ ton this week. All area mills were being operated on full five-day schedules, and only a minimum increase in orders will make overtime or second shifts necessary.

Follow This

PROFESSIONAL PIG PROGRAM

To Build Professional-Size Sales on America's Fastest-Growing Hog Feed Line

Here's the plan you've wanted for years—a **program** of feeding that wins new feeders and **keeps them on one brand** through the full cycle from breeding to marketing—two litters per year, and year after year.

Here is a plan that puts any hog-feeder in the professional class if he wants to enter it. It allows him to utilize the latest discoveries in enzymes; start pigs eating as early as 4 to 5 days; shows him ways to put pork production on a basis competitive with broiler-feeding.

Offer it—and build that lasting following that means **steady** business and steady profit.

Remember, this STALEY Professional Pig Program is but one of the smartly-planned promotions that make the Staley franchise a top-volume-builder and money-maker. The Staley Pig Mama Program (for feeders with a lot of time and grain), the STALEY 100% Livability Chick Plan, Staley's challenging egg-feed promotions, and advantages in beef and dairy cattle feeds give you the perfectly rounded sales opportunity, when you feature the big Staley sign.

Write now and find out how to put Staley's quality leadership, promotional advantages and increasing acceptance to work for you. It'll pay you — pay you real money.

staley

No. 561-57

Staley Milling Company, Kansas City and St. Louis

Here's the Plan—Here Are the Sales You Can Make:

This Staley Professional Pig Program is a complete 3-step plan, from farrowing to market. Here's what the farmer needs:

1. 10 pounds of new STALEY Enzymated Professional Pig Kisses per pig. This is fed from the 4th day till it is consumed (with no grain) along with sow's milk. This usually feeds new pigs through the 3rd or 4th week—acts as pre-starter and starter in one feed.

2. 60 pounds of STALEY Professional Pig Grower brings pigs up to 45 to 60 pounds at 8 weeks. Up to double the old-style 8-week weight. Staley feeders' neighbors see these results—and Staley dealers see a lot of new-customer faces!

3. Staley Pro-Lass and grain —40 pounds of Staley Pro-Lass, plus 6 bushels of corn, makes 100 pounds of pork! So you'll sell about 60 pounds of Pro-Lass—on top of the Pig Kisses and Pig Grower.

And what's more — This **professional** plan is designed to help feeders raise two pig crops per year. So just one sow's litters should mean a solid ton of feed sales for you each year. That's a lot of feed—and as this Professional Pig Program goes, it can mean more and more tonnage for you.